VISIT…

PORTRAIT LIGHTING

for Digital Photographers

The Basics and Beyond

Stephen Dantzig

Amherst Media®
PUBLISHER OF PHOTOGRAPHY BOOKS

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Foreword

About eighteen months prior to this writing, I had my first face-to-face meeting with Stephen Dantzig. Both of us are contributing writers for ProPhotoResource.com (an information-rich, photography forum web site that deserves your attention), and had struck up a casual e-mail relationship. It took a visit to my daughter, who is attending college in Honolulu, where Steve is based, to get us together.

Over a couple of adult beverages, it became quite clear that Steve shared my passion for photography in general, and books, education for emerging photographers, and lighting in particular. We became immediate friends, and this book is the result of that casual conversation. Though I'm gratified to have had a microscopic part in its inception, I'm immensely honored because he asked me to write this foreword.

As I read through his text, I was struck by Steve's ability to explain the fundamental science, the physics of photography, and the creative side of the craft. Most photographers will agree that, while necessary to know, understand, and implement, the science side is dry and boring to most creative minds. Steve's impish sense of humor gives him the ability to present important information in an interesting and informative way. Even better, he's able to couple the science side to the creative side, presenting beautiful images to illustrate his text and back up the concepts.

Steve is a very confident photographer, comfortable with his talent, knowledge, and ability to share. You'll read and realize this throughout the general text but mostly in his willingness to show and explain the mistakes he makes between visualizing and creating a great shot. We all make mistakes, of course, but few authors are as ready as Steve to explain why something went wrong, how the problem was recognized, and what was done to fix it. In a way, that openness is more important than publishing a book full of perfect images—visual goals that novice photographers may have trouble achieving.

Being in Hawaii means working outdoors as much as possible. For you, the reader, Steve presents yet another golden opportunity to learn from experience. Working with the harsh light of the sun, especially in a tropical environment, can be very difficult; that's one of the first things you're taught in Photo 101. Unfortunately, most photography classes only teach you to fill the shadows with light from your on-camera flash. One of Steve's goals with this book was to demonstrate the many ways he lights, fills, and accents great outdoor shots—images that set his work apart from that of his competition. Creating work on a technical and personal level that rises above that of your competition should be your goal. Reading and studying the techniques presented in this book will be a great help to you in accomplishing that task.

There was a phrase commonly uttered by darkroom-savvy photographers: "There's no such thing as a perfect negative." Indeed, even the best negatives were evaluated, burned and dodged, or developed in multiple baths—whatever it took to create a great print, no matter how many tries. Today, photographers rely on image manipulation software like Photoshop to handle the jobs once carried out in the darkroom. It shouldn't be a surprise to anyone that Steve is an excellent Photoshop technician, and he freely writes about the tricks he uses to push his images over the top. You'll find his easy to understand techniques will aid your efforts as well.

This is a very exciting time to be a photographer. Digital technology is evolving at an incredible rate and, while the competition for market share is tough (it has

always been tough), the market for fine photography is still going strong—even though the bar has been raised. If I can give you any advice, it would be to read as much as you can about the styles of photography that interest you and practice, practice, practice. Make mistakes with wild abandon and profit from them. Be a merciless editor of your own work. Most of all, have fun playing with your toys. Books like this, as invaluable as they are for the knowledge they impart, are merely stepping stones to your stellar career in one of the most mentally stimulating and creatively rewarding professions a person could embark upon, that of professional photographer. It's up to you to make it happen, and you can if you apply yourself. I truly hope you enjoy the journey.

Now, get ready to learn how one stellar photographer, Steve Dantzig, makes it happen every day.

—Christopher Grey

Creating images like this silly photograph of Samantha and Serena is a great deal of fun! This was an outtake from a shoot with three girls that is decribed on page 50. The technical aspects of the shoot were in place so I was able to sit back and record three friends playing around! You will learn how to understand and control the technical components of portrait lighting in this book.

Preface

It took a while for me to plunge headlong into writing my fourth book on lighting. I thought that I had covered everything that I had to offer in my first three books. My first two books (*Lighting Techniques for Fashion and Glamour Photography* and *Master Lighting Techniques for Outdoor and Location Digital Portrait Photography*) were a lot of fun for me because I am a self-proclaimed tech junkie: the physics and mathematics involved with high-end lighting techniques fascinate me, and I set out to share the love! My third book, *Softbox Lighting Techniques for Professional Photographers,* was more of a creative journey as I literally created new lighting schemes for each assignment that went into the book. I sincerely hope that I was successful and that the books noted were helpful for the intended readers.

Why, at this point, would I want to devote another year of my "free time" to do it again? Well, the main thing that I love about photography—and photography's "partner," Photoshop—is that we never stop learning. I am passionate about photography, and teaching helps me to learn more about the subject that I so love. I also invite eager and hungry students to apprentice with me, so I am often introducing the basics of professional lighting to newcomers. In time I realized that I wanted to share my understanding of light with those of you who have just realized that you caught the bug. This book is for all of you who know what you want to do but don't quite understand how to do it.

Writing this book will be a different kind of challenge for me. I want to cover the basics of lighting, but I want it to be a resource that will grow with you as you develop your skills. I would also like it to include some tidbits for more intermediate and even the occasional advanced learners.

Aloha! Welcome to what I hope will be an exciting and helpful journey into the fascinating world of portrait lighting. There are some occasions when you will be able to put your camera on program mode and capture great images. These times are rare, however, and more often than not you'll need to understand at least the basics of light and lighting to consistently create professional quality portraits and fashion and glamour photographs. This book will detail how, when, and why to use and modify different types of lights to create the images you want.

Athena was photographed on the bow of a charter boat during an inter-island cruise in Fiji. I did not have my trusty light meter with me, so I had to rely on what the camra could do for me. You will quickly learn that I am not a big fan of using automatic camera settings. However, I was not going to pass up the opportunity to work with a beautiful model in an exotic location just because I didn't have my light meter. The sun was setting over my shoulder, so I knew that the light falling on Athena, the boat, and the background would be consistent. There were no sudden and drastic shifts in the light that would "fool" my meter, so I set the camera on Program (automatic) mode and went to work.

Acknowledgments

This book is the product and end result of several years of working and collaborating with many wonderful people. Some of the names listed will be familiar from my other books, while others represent new collaborations and friendships. First, I have my mentors and coaches to thank; the process of education can be tedious and much more difficult without mentors. Bill Higgins taught me more than he knows by forcing me to figure out why a technique that I tried so many years ago didn't work. "It's your job to figure out what didn't work (but here's a clue!)." Bill's approach was global, and my brain understands light at the mathematical level. It would take other teachers to help bring the science part of my brain in line with the artistic side of photography. The late and great educator Dean Collins was the first to consistently challenge my understanding of the physics of light and exposure control, but it was not until a four-day seminar with Will Crockett that I really began to get it. My friends in the business continue to challenge and push my development as a photographer and author. David Mecey has been answering my e-mails for fifteen-plus years and is a great support. I've been picking my buddy Al Garcia's brain for well over twenty years, and Stan Cox and I have been having weekly (when possible) discussions for five years. Each of these people, and many more, have played a dramatic role in where I am as a person and as a photographer.

Photoshop was and is a whole different learning experience. I relied heavily on books and trial and error then and still do for the most part. Martin Evening does a terrific job with his *Photoshop for Photographers* series, and Dave Cross has some great videos on the www.photoshopuser.com web site. Photoshop is a program that you will learn faster by watching the masters play. I have had the wonderful opportunity to watch Eddie Tapp in action on a couple of occasions. Eddie is a great guy and an excellent teacher, so be sure to see him if he is in your area. I would be remiss if I did not mention one of the main guys behind Photoshop World and *Photoshop User* magazine: Scott Kelby is a super instructor, and I am very happy to count him among my friends.

I have said that the best way to learn a topic is to teach it. I've been teaching photography for almost ten years. My first professional writing experiences were with Photoflex and www.webphotoschool.com. Bill Hurter at *Rangefinder* then took me under his wing and helped shape my style to fit the needs of a professional clientele. Bill also introduced me to the crew at Amherst Media and a relationship that has been professionally challenging and personally rewarding. Cris Mitchell is one of my "new" friends. Cris provides me with the ever present challenge of writing a monthly column for www.prophotoresource.com. This book would not have happened—at least in its current form—without the words and advice from my fellow Amherst Media author and www.prophotoresource.com contributor and friend, Chris Grey.

My family has been a constant source of encouragement, support, and love. My mom and dad gave me the foundation to succeed, the courage to fail, and wings that allowed me to land on this island in the middle of the Pacific Ocean. My dad is gone physically, but he is with me everyday. My sisters Susan and Kathryn are trusted allies along life's sometimes rocky road, as are Steve and Jim. Ken and Janet as well as Ken and Carol are among the bricks from the East Coast that

hold these walls together. I have, thankfully, found family here in Hawaii as well. Charlie, Lee, and Pat are among my *ohana* in the Islands.

Terry Walker is mentioned for two reasons: he is literally the friend that I have known the longest—I knew Terry before I knew that I knew him! We have seen some great times and survived life's rough spots together. He is the brother that I didn't have growing up and one of my most trusted friends. Terry also designed the icons for the diagrams in this book. His wife Cindy is now a welcomed member of my family.

I have had the distinct honor and pleasure of working with some of the most talented people in Hawaii for this project. Alicia, Tiffany, Teresa, Toni, and Yesenia all provided outstanding hair and makeup services for some of the shoots. The women (and man!) photographed for the book are among the most beautiful in the world, and they were each great fun to work with—even though Ashley and Flora like to fire my helpers! My deepest appreciation goes out to: Ashley-Cara, Athena, Brandy, Brooke, Cassie Ann, Crystal, Dahea (Samantha), Elise, Flora, Jacquie, Jahlynn, Jaime, Jen, Jenie, Jill, Joanne, Kathryn, Lindsay, Marie, Marisa, Midori, Naomye, Raeceen, Ruthchelle, Serena, Shenri-Ann, Tasha, Teresa, Tiffany, Tishanna, Tracy, and Vina. A special congratulations goes out to Raeceen Woolford, Miss Hawaii 2009. Way to go, Rae!

There is another group of people that I need to mention: "my guys" are the ones who make my shoots happen. I could not do it without the help of the following guys who literally set up and tear down each set as well as load, unload, and carry the gear on location. Special thanks to Brett, Domi, Ed, Glenn, Kyler, Leroy, Parker, and Max. Special *mahalos* to Jon Yoshimura for the behind the scenes shots and help on the set! Very special *mahalos* to Max and Kitan for reading through this manuscript and for making editorial suggestions. Thanks to Luna for her assistance as well. This book is dedicated to each of you for all of your hard work. Please know that it is greatly appreciated.

There is one guy that I haven't mentioned yet. Marshall has been my go-to guy for over four years. He is always there if it is at all possible. He is a hard worker who is always good for a laugh—even if some of the models do fire him on the set (they always rehire him!). Though the book is dedicated to all my helpers, a special shout-out goes to my buddy Marshall. *Mahalo nui loa.*

Introduction

Lighting for portrait, fashion, or glamour photography is decidedly *not* simple. There are a number of complex and potentially confusing aspects to controlling light that may seem daunting to a new photographer. However, the discovery of how these components work and interact is one of the most fascinating and invigorating experiences imaginable! The intent of this book is to break complex lighting laws into the basics and guide you on your journey with clear and concise demonstrations of how and why these laws work. We will also venture into some complicated (and fun!) ideas and techniques, but we'll do so in a step-by-step fashion.

Lighting for portrait, fashion, or glamour photography is decidedly* not *simple.

We'll start with a review of the foundations of light and how to get an accurate exposure every time. The more complicated laws that govern light will be broken down with clear examples demonstrating the concept behind the techniques. We'll also show different types of lights and light modifiers at different positions in the photographic set and discuss how and why they work. The gear shown is mine, well worn and beat up through years of use! Lighting lessons will be followed up with samples that show the technique or light placement in the field. A few behind-the-scenes images will show the actual set for selected shoots. We will show and describe images created with setups ranging from one light through multiple-light sets. At times we will show the same technique with different light modifiers to show the effects created by these changes. Glossary sections appear throughout the book, defining key terms that will be used to demonstrate a concept or technique. We will look at indoor and outdoor applications and will include several series where we will go "Beyond the Basics." These series will outline more advanced strategies or applications. You can read those sections as you progress through the book or return to them as the concepts in the book begin to fall into place. We'll keep the lighting to a minimum—the most elaborate setup will include four lights, but most will use fewer than that. There will be plenty of examples showing how to use one or two lights to produce outstanding images. We will explore different applications covering portraiture, fashion, and glamour photography. Finally, the book will emphasize digital capture, but the issues discussed can be applied to film shooters too.

I hope that you enjoy the journey!

Key to Lighting Diagrams

The following key will help you to recognize some of the icons used throughout this book and the light sources that each represents.

The lighting techniques demonstrated in this book were created by the light sources depicted in this key. The icons used in the diagrams correspond to the lights shown here.

1. Exposure and Metering

The Art and Science of Photography

Photography is generally considered to be the art and science of recording light. Though this is essentially true, this statement is not quite accurate. Photography is the art and science of recording the light that reflects off of whatever we are photographing. Each portion of our scene has a different amount of reflectivity: darker areas absorb more light and therefore reflect less light and become the shadow areas; brighter areas absorb less

This image of Marisa shows a wide range of light values from highlight to shadow. Her white shirt is the most reflective part of the scene, and her dark hair and shorts are among the least reflective. The anchor point for this image was the skin tone by her cheek. The scene was metered to render her skin tones as the neutral, properly, or perhaps naturally exposed sections. The white shirt reflects more light than her skin and is recorded as a highlight, and her hair absorbs more light and becomes the shadow values. The other sections of the image—the sculpture and ivy behind her—fall into place as well.

and reflect more light and become our highlights. Technically speaking, highlights are overexposed sections of your image; shadows are underexposed as they relate to what is your neutrally or naturally exposed area. We usually want the skin tones to record naturally in people photography, so I normally choose that as my neutral spot to meter. We'll discuss how to choose and meter for your neutral sections soon, but for now it is important to note that your highlights and shadows are properly exposed when compared to what you have chosen as neutral. Highlights ("overexposed" areas) and shadows ("underexposed" areas) are critical to your image because they create the depth, texture, and shape in an image. In essence, they are what creates the appearance of a third dimension in a two-dimensional art form.

So, every photograph will have areas that are "properly" exposed as well as areas that are "under" or "over" exposed. The range of light values captured will result in gradations from highlights (brighter areas) to shadows (darker areas). Your highlights and shadows are defined by how they relate to the area of your scene that is "neutral," or the properly exposed section. The science of photography lies in the techniques used to create a realistic rendition of the scene photographed. The art of photography lies in the decisions made that determine what the properly exposed section will be and how the shadows and highlights will relate to the neutral portion.

Proper Exposure in the Digital Age

I'll Fix it in Photoshop! The issue of a properly exposed image has become more critical in the digital age than ever before. Sadly, there is a misconception that it is easy to consistently capture great images with digital photography. The fact is that, though the range of information captured (from highlight to shadow) increases with each new generation of camera that comes on the market and provides an ever increasing range of subtle changes in tone, there is not much room to correct exposure in post-production before you lose data. I'll use an image of Cassie Ann to illustrate my point.

The original image was properly exposed and captured in the RAW mode. I processed the image eight more times, each showing ⅓ of a stop difference in exposure. Notice how fast we began to lose information. Note also that this exercise is only possible because I started with a properly exposed image. It is much harder to salvage a poor image than it is to manipulate a good image. See chapter 7 for more information on processing RAW images in Photoshop.

So, how do you know when you have an accurately exposed image? As a brief review, your exposure is made up of the accurate combination of your shutter speed and aperture (f-stop) at a particular ISO setting. Your

TERMS TO KNOW

Working aperture. Your working aperture is the aperture or f-stop that your camera is set to when you make an exposure. Your working aperture, shutter speed, and ISO setting work in tandem to create the exposure.

Neutral exposure area. The neutral exposure area is the portion of a scene that you decide will be properly exposed to show the color or gray tones as naturally as possible.

Highlights. The highlights are the areas of your scene that will record lighter than the neutral sections.

Shadows. The shadows are the areas of your image that will record darker than the neutral sections.

Above—This is the original, properly exposed image. It was retouched with the Healing Brush and Clone Stamp and color corrected with a Curves adjustment layer in Photoshop. The other images in this series are neither retouched nor color corrected; they are screen captures that show the respective histograms. The histogram is a graphic display of the information captured in your digital image. You have lost important image information when the data on the graph is bunched up on either side of the chart. (*Note:* Chapter 7 features some Photoshop techniques for retouching, color correcting, and artistically enhancing your images.) ***Row 1***—The first simulation shows that changes in the quality of your image begin at ±1/3 of a stop. The histogram for each image confirms that important data is starting to shift toward the shadow and highlight edges of the respective graphs. Data that bumps up against the right side of the histogram indicates that some of the highlights are being "clipped." In the digital world, "clipped" means "gone!" Similarly, data that bumps up against the left side of the histogram indicates that you have lost information in the shadows. Personally I think that ±1/3 of a stop is within the range of creative judgment, but I would rather nail the exposure and make only subtle adjustments in Photoshop. ***Row 2***—The differences in image quality truly begin to show at ±6/10 of a stop. The movement of data along the histogram is unmistakable. ***Row 3***—I used to routinely overexpose my images by one stop when I shot on negative film. In those days, adding a stop of light added color saturation. Things are different now. The image is too bright and has too much contrast at +9/10 of a stop, while the –9/10 image is showing the tell-tale signs of a grossly underexposed photograph. ***Row 4***—The images are useless at just over a stop under- and overexposed (unless you're looking for that effect). However, as I stated above, I'd rather shoot the image properly and adjust the exposures in the RAW conversion. Why? Picture this scene: You shoot a "moody" underexposed image for a client, and everyone loves it. A week later, the publisher calls you and says they love the image, but the theme of the ad changed. "Do you have the image with a broader range of color tones?" he asks. You are a hero if you say, "Well, I'm sure I can manage that." You are the goat if you say, "Well, I shot the image according to your specifications." Trust me: you are not going to bring back over a stop of lost data, but you can play with a properly exposed image. We'll look at some examples in this book where I play with multiple RAW conversions to create the image that I want.

OVER 1 STOP
GretagMacbeth™ ColorChecker Color Rendition Chart
OVER 2/3 STOPS
GretagMacbeth™ ColorChecker Color Rendition Chart
OVER 1/3 STOPS
EVEN
UNDER 1/3 STOPS
UNDER 2/3 STOPS
UNDER 1 STOP
INFO
Click image to zoom in, click and drag to marquee zoom. Use Opt and Cmd for additional options.

Left—The image above shows a composite of photographs of a GreytagMacbeth Color Checker, where each image was cropped to show only the gray strip of the card and combined in Photoshop. You can see the different values of "white" by looking at the Info palette. ***Right***—I used a color correction technique (described fully in chapter 7) to neutralize any color cast by selecting the white and middle gray points on the "even" strip. The differences are subtle but important. My preference for this camera is $+1/3$ of a stop because the darker tones are not as blocked up.

shutter speed controls how fast or slowly your camera's shutter opens and closes to allow light in. Your aperture is your f-stop. It is the size of the lens opening. (There is a graphic depiction of f-stops in chapter 5.) Your ISO is what we used to call the "film speed." A higher ISO number indicates a "faster" setting, where less light is needed for a proper exposure. The tradeoff for a faster ISO setting is increased digital "noise," or random pixel specks that degrade the overall quality of your image.

Today's digital cameras offer a variety of programmable ISO settings. My preferred ISO setting for the work I do is in the ISO 100 to 200 range. I can shoot at the slower ISOs because I am usually able to control the light and lighting on my sets. Wedding photographers often use ISO settings that are considerably faster. I will trade the noise at the higher ISO ratings in order to be able to use a fast shutter speed to stop the action when I shoot indoor sporting events.

ISO Calibration. It is up to you to determine the accuracy of your camera's ISO rating. The camera manufacturers know that digital capture is difficult and that highlights blow out fast. Many digital cameras are set

TERMS TO KNOW

Light meter. A light meter is a tool that records the light in a scene and turns those values into shutter speeds and aperture values—the language that a photographer can understand and use.

Reflective light meter. A reflective light meter reads the light that bounces off of your subject.

Incident light meter. An incident light meter reads the light that falls on your subject.

to underexpose the image to save the highlights. In my early digital photography days, the ISO ratings on my cameras ranged from ⅓ of a stop to probably almost a stop under the absolute ISO value. Unfortunately I didn't know that then and spent a lot of time learning how to use Curves adjustment layers in Photoshop!

I check the ISO calibration on my cameras by photographing a scene with a full range of gray tones. I meter the scene carefully (more on metering soon) and then shoot the scenes, bracketing the exposure (i.e., shooting the same image at different camera settings on either side of the metered exposure to yield different exposures) by ⅓ stop up to a full stop.

Getting the Correct Exposure In-Camera. There are many digital photographers who use the LCD screen on the back of the camera to judge the accuracy of the exposure. Using the LCD to judge your exposure is,

The amount of light falling on Kathryn varied dramatically depending on whether she stood in the shade of the bushes or in direct sunshine. We took an incident meter reading at the color card, so the card is properly exposed in both images, though the exposures of the surrounding areas are vastly different. The highlight and shadow areas shifted because we moved the spot chosen as neutral.

TERMS TO KNOW

Front lights. Front lights illuminate the front of part of your set and are metered with an incident light meter with the dome aimed at the camera.

Non-front lights. Non-front lights, such as hair or rim lights, illuminate other portions of the set. They are metered with the dome of an incident light meter aimed at the light.

Rim or accent lights. Rim or accent lights add highlights along the edge of the subject to create visual separation between the subject and the background. This helps to create the illusion of depth and three dimensions in your image.

Back(ground) lights. Back (or background) lights illuminate all or part of your background.

Hair lights. Hair lights are lights that are focused to provide additional illumination on the model's hair. They also help to visually separate the subject from the background.

in my opinion, a really bad idea. First, in my experience, the LCD image has too much contrast for me to make critical exposure decisions. A second and more important reason is that the image changes dramatically depending upon the angle at which you hold the camera. Third, you won't be able to see the LCD in bright outdoor settings. Many laptop computers have the same problems.

Use a Calibrated Light Meter. So, how do we judge the exposure in a world where control is critical? Our best bet is to rely on a tool that is well known to commercial photographers: a calibrated light meter. The ISO experiment described earlier is very important, because the adjusted ISO is what you will dial into your meter. The light meter will calculate the light that reflects off of your subject (reflective meter reading) or falls onto your subject (incident meter reading) at the given ISO sensitivity.

Light meters work by reading the light at a particular point—or average of points—in your scene and translating that information into f-stops and shutter speeds—the language of photographers. The meter will assign the light recorded a value that, on a gray scale, is midway between white without detail and black without detail. This midtone value is known as 18 percent gray. It is the value that your highlights and shadows are based on. Light values that are higher than 18 percent gray will record as highlights. Light values that are lower than 18 percent gray appear as your shadows. *You* control that by determining what part of your scene will be recorded as neutral.

Built-in versus Handheld Meters. Cameras with built-in light meters use a reflective metering system. Most offer several metering options ranging from an average of all of the light bouncing back from your subject to a narrow spot that measures a small and specific part of your scene. Reflective metering systems work, but they can be tricky to use. Remember that meters understand 18 percent gray—nothing more and nothing less. So, they will read the light off of any surface and register an exposure that will render a midtone gray equivalent. The light reflected off of a dark-skinned person is less than 18 percent gray, but your meter doesn't know this. You

The light reflected off of a dark-skinned person is less than 18 percent gray, but your meter doesn't know this.

This image shows the proper placement of a handheld incident light meter when measuring front lights. The dome of the meter is close to the model's cheek and is aimed right at the camera. You can also place the meter under the model's chin and point the dome at the camera. Unfortunately, Jahlynn seems to want to eat the meter!

might wind up with skin tones that are unnaturally light if you are not careful.

Similarly, you risk creating darker skin tones on a fair-skinned person for the opposite reason. You would need to override what your meter said and shoot at a smaller aperture to render naturally dark skin and a larger opening to show naturally fair skin. Backlit scenes can also be problematic for reflective meters because they fool the meter into creating an exposure for the background, leaving your subject in silhouette.

The answer to these problems is to use a handheld incident light meter. An incident light meter reads the light from the position of your subject. Many handheld meters can be used as incident or reflective meters. There will be an attachable/removable white dome with your meter. Make sure that the dome is attached to use the meter in the incident mode. Place the dome of the meter at the spot in your scene that you want to record as neu-

tral, press a button, and you have your accurate exposure for that part of the scene. It's simple.

The two most common questions asked about incident meters are "Where do I put it?" and "Where do I aim it?" The most important part of my image is the model's skin tones. I want the skin tones to record naturally, so I will place the dome of the meter right next to the subject's cheek. You could also place it just under your subject's chin. The question of where to point the dome is a little more complicated. Some photographers point the dome at the camera, and others advocate pointing it at the light source. I do both depending on the kind of light I am metering. I don't mean the type of light source (it makes no difference whether the light is coming from the sun, a strobe, or a softbox), but whether the light or lights are illuminating the front part of your set or some other, non-front area. *Note:* Main and fill lights are front lights. Background lights are also considered front lights because they light up the front of your backdrop. Hair, rim, or accent lights illuminate non-front portions of your set.

Below—Metering an outdoor scene is a little more complicated when you combine the ambient—or existing—light with strobes. We'll take a detailed look at this topic in chapter 6. Model: Marisa. ***Facing page***—The light metered in this photograph is a hair light. It adds highlights on Jenie's hair and the side of her body. It is a non-front light, so the dome of the meter is aimed directly at the light source.

2. Equipment and Lighting Styles

Photographs and descriptions of some of the lights and light modifiers used to complete the techniques shown in this book appear in chapter 3. For now, let's focus on where you can place your lights and how to create basic lighting styles.

The main light or main/fill light combination sets the overall exposure and direction of the light. Hair and rim lights add dimension and contrast to the image and create a three-dimensional feel. They also separate the model from the background. *Mahalo,* Jenie!

TERMS TO KNOW

Main lights. Main lights, also called key lights, are the primary source of illumination for your image. They provide the base exposure and determine the direction of the light. They also establish the pattern of shadows and highlights that determine the lighting style of the image.

Fill lights. Fill lights modify the effect of your main light by adding illumination on both sides of your subject, raising the light values on the shadow side and highlight side of the subject. Ideally, the fill source simply provides more light in the shadows but does not change the direction or lighting style produced by the main light. Fill lights can be additional hot lights, strobes, or a reflector. (*Note:* Reflectors may only add light to shadows, depending on where they are placed.)

TERMS TO KNOW

Hot lights. Hot lights produce a constant source of illumination. The sun, ordinary household lightbulbs, and floodlights are well-known examples of hot lights, and many types of bulbs have been adapted for photography. Because hot lights are always on, you can see exactly what you are getting before you take the picture. Metering for a continuous light source is straightforward: the exposure basics covered in chapter 1 apply. The combination of ISO, shutter speed, and aperture factor into your exposure when using hot lights. The downside of hot lights is they generate a lot of heat. In many cases, you will find that hot lights are not as powerful as you'd think, and you have to shoot at a slow shutter speed.

Strobes. Strobes and flashes are electronic devices designed to provide a very quick burst of light on demand. The benefits are that they generally stay cool and you can usually shoot at a faster shutter speed. The drawbacks are the initial cost of professional strobes and that you cannot see where the light is going. However, some studio strobes have modeling lamps (low-powered hot lights) that allow you to see where the light is going to go. The light from your modeling lamps is usually much less intense than the burst from the strobe, so it is the quick burst of light from the strobes and not the constant light from the modeling lamp that becomes the basis for your exposure in the studio. Therefore, your shutter speed is generally not a factor in the studio because all you are recording is the burst of light from the strobe. The light from your modeling lamp can become a factor if you choose a very slow shutter speed. You do, however, need to make sure that your shutter speed is set at or slower than the maximum "sync" speed for your camera (the fastest shutter speed on your camera that will record the light from strobes). Your shutter speed becomes a factor again when you shoot with strobes outdoors when the light from the sun is part of the equation. We'll look at combining strobes with natural light in chapter 6.

Reflectors. Reflectors "catch" light to bounce it into areas that are not well illuminated by the existing light. Note that they do not add light, they merely redirect it.

Positioning Your Main Light

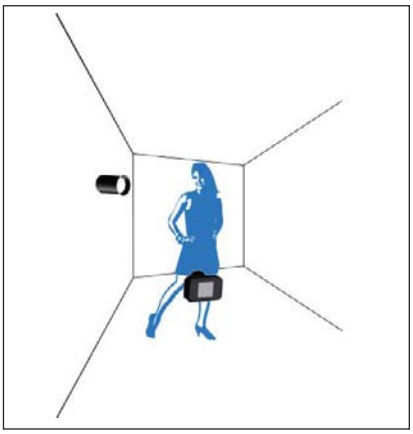
Main lights set the stage for the rest of your scene. All other light values, including whether you want to add a fill source and to what degree, are based on your main light(s). The patterns of shadows and highlights are also determined by your main light. The patterns created will change depending upon where you place the main light around your subject. The lighting patterns that the various main light positions create are typically called lighting styles.

We will look at four distinct lighting styles in the sections that follow. We'll also discuss two other styles that relate to the main illustrations. Each set will consist of at least seven images. First, each set will contain an image using a spotlight with a 20 degree grid to narrow the beam of light and dramatically emphasize the effect of the main light placement. The second shot will show the styles as photographed with a 30x40-inch softbox, illustrating how the effect would look under more usual situations. *(Note:* The differences shown here relate to what is called the "quality of light" and will be discussed in detail in chapter 3.) The spotlight/softbox illustrations will continue for each style with the addition of a 4x8-foot white and then silver reflector for each setup to show the effects of adding a simple fill source to bounce light to fill the shadow areas. *Note:* You will notice some considerable color shifts in the images that follow. Different light sources will create their own color. For example, softboxes may produce a different color of light than spotlights. The shifts in color were left on purpose to

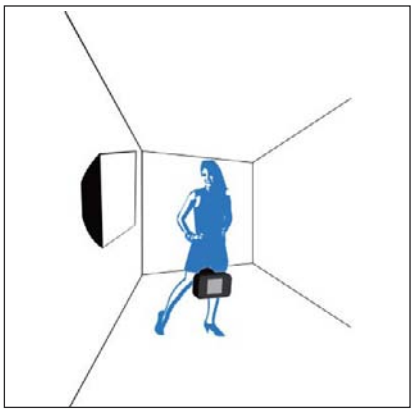
illustrate that different light sources have different color temperatures. Color temperature issues are discussed in chapter 4. Finally, each sequence of images will include at least one photograph that shows how the lighting style might be used in the field.

Side Lighting

Side or split lighting is the result of placing your main light at a 90 degree angle to your subject. The light illuminates only one side of your subject's face and body, leaving the other half in complete shadow. The images below and on the facing page show the results of using various lighting approaches to produce the effect in the studio.



Side lighting can be an extremely dramatic way to illuminate your subject. The spotlight emphasizes the effect, throwing the left side of Serena's face into complete shadow.

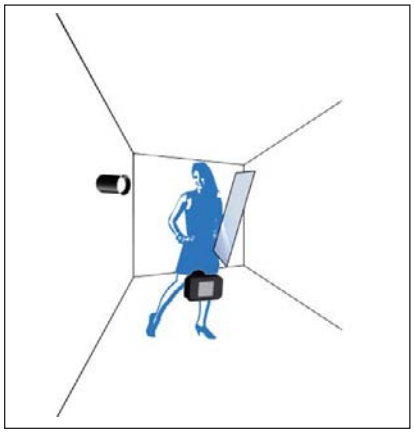


The softbox maintains the dramatic effect of this lighting scheme but creates what would generally be considered a more pleasing look.

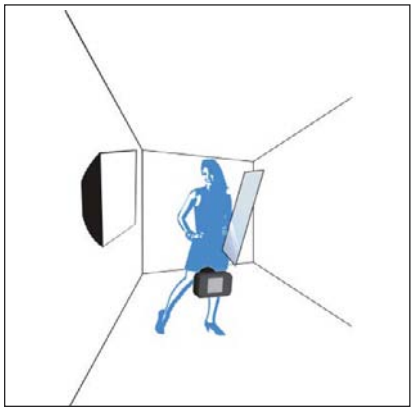
TERMS TO KNOW

Lighting Style. The term "lighting style" refers to the characteristic pattern of highlights and shadows created by the position of your main light in relation to your subject.

Rim Lighting. Rim lighting is produced when two side lights are used on either side of the model, leaving the front of your subject in relative shadow.

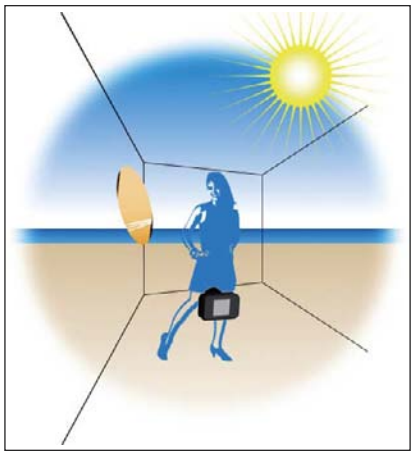


A reflector was added to catch some of the light passing Serena and bounce it into the deep shadows. The amount of light reaching the shadows is limited because the beam of light from the spotlight was so narrow that not much light passed Serena. The difference between the white card (left) and the silver card (right) is subtle in these examples.

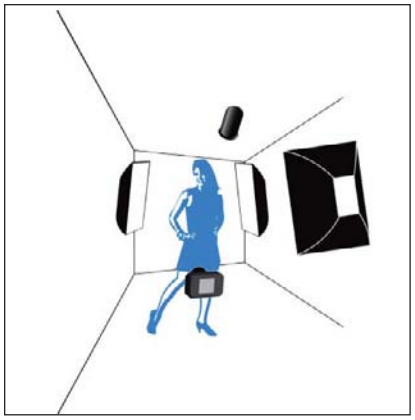


The reflectors do a much better job when there is more light to bounce into the shadows. We also begin to see more differences between the white and silver cards—the silver (right) is reflecting the light in a little brighter fashion than the white (right): the shadows are somewhat softer, and the reflection off of Serena's left cheek is more intense. The reflectors were placed very close to her and almost negate the effect of the side light.

There are times when the dramatic look of side lighting can be very effective. One of the trademarks of Hawaiian beaches is the beautiful juxtaposition of black lava rock and the deep-blue ocean. The sun was still a bit



Facing page and above—Extreme side lighting, especially with harsh light sources, needs to be used with caution. The extreme angle can accentuate flaws and/or blemishes. However, the same lighting with the right model can be phenomenal. Raeceen Woolford's physique is beautifully outlined by the bright highlights and shadows created by the harsh lighting. The shadows are softened by the light bounced by a silver/gold reflector.

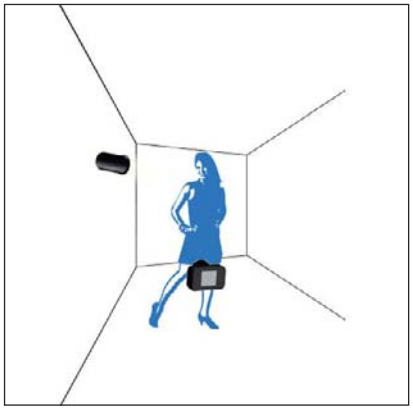


Above and right—I do not often use rim lighting as my main source of illumination. However, I often use rim lights to add accent, form, and a three-dimensional feel to an image. Rim lighting is particularly valuable in glamour photography. Joanne Guillermo is lit with a softbox with a spotlight fill. The two Stripdomes placed behind her add separation and a glamourous feel to the image. We'll discuss rim and accent lights in more detail in chapter 5.

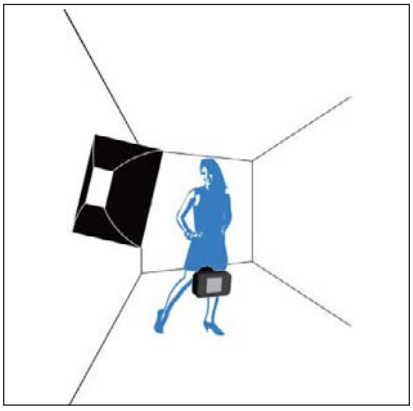
high but was moving into a usable position as we approached the rocks and jetties to create the image shown on the facing page. This was one of those times when I wanted a harsh light: Raeceen Woolford has been an accomplished intercollegiate athlete, and her physique reflects the hard work she has put into her career. A harsh side light would accentuate and flatter her figure, so she was positioned with the sun just past 90 degrees camera right. A silver/gold reflector was used to bounce light into Rae's face and her right side.

Rembrandt Lighting

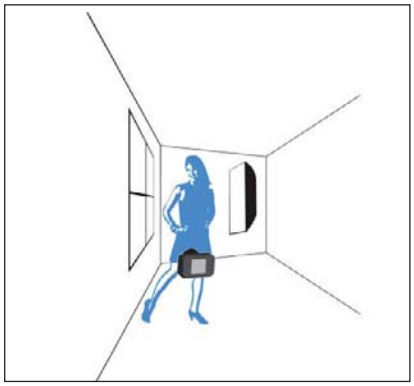
A Rembrandt lighting pattern is created by moving the light to about a 45 degree position and allowing the nose to cast a long shadow. The result is a triangle of light that is supposed to include the eye and the area just under the eye on the shadow side of your subject's face. Rembrandt lighting is named after the famous master painter whose portraits usually depicted this style of lighting.



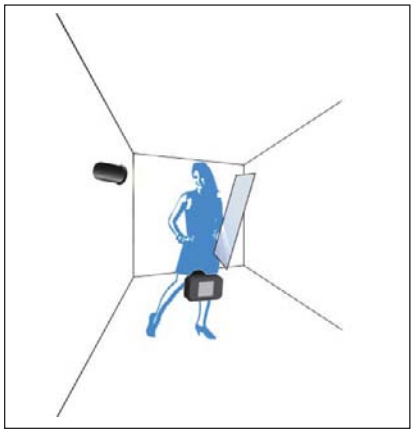
The spotlight casts a deep shadow from Serena's nose that, in this case, almost joins the shadow line of her cheek. Ideally, for a "true" Rembrandt style, the shadow would extend down her lip so the only highlight on the opposite side would be the triangle of light under her eye.



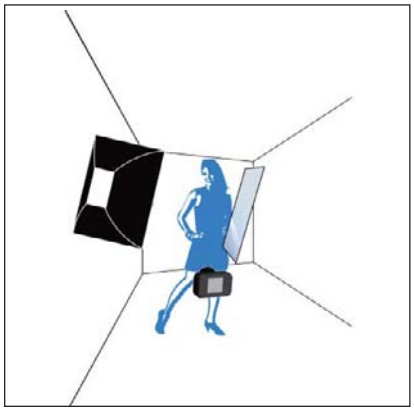
The Rembrandt triangle is apparent in this image made using a 30x40-inch softbox. The shadow from Serena's nose extends down her lip, but the light from the softbox wraps around her face, softening and expanding the triangle.



The classic Rembrandt lighting style is perhaps best illustrated by the light that inspired it: window light. We were creating a series of fashion images of Tasha using a strobe bounced off of a semi-white wall to simulate the window light when we decided to just use the window light. Photoflex's medium Stripdome adds a subtle accent to Tasha's hair and left arm. This is an example of short lighting because she is turned into the main light (window).



The reflectors catch and bounce more light into the shadows in this set of images because the main light was moved and its current position allows more light to "spill" past Serena. The increased brightness from the silver card (right) is much more apparent. Not only does Serena's face appear brighter, but the Rembrandt shadow is a lot lighter.



The reflectors, again placed close to Serena, kick a great deal of light back into the shadows. There is, however, still a sense of direction to the light. The silver card (right) has more "pop" to the reflected light. It's a personal and artistic choice, but I tend to like the silver cards. Some of my friends prefer the more subtle white cards.

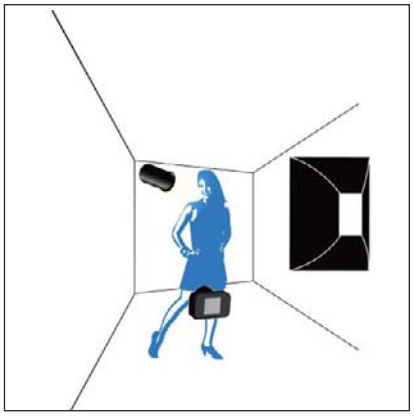
Rembrandt lighting is very popular with portrait artists. The master painters used this light, and the appeal has remained. The light tends to come from about a 45 degree angle and creates a very flattering pattern of highlight to shadow.

Loop Lighting

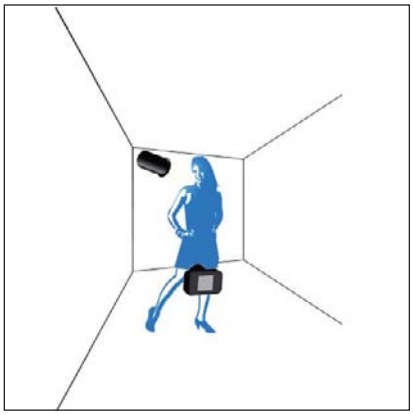
Loop lighting is created by moving the main light a little closer to the camera axis and raising it a bit. The shadow that created the Rembrandt triangle now extends downward and at a greater angle from the nose.

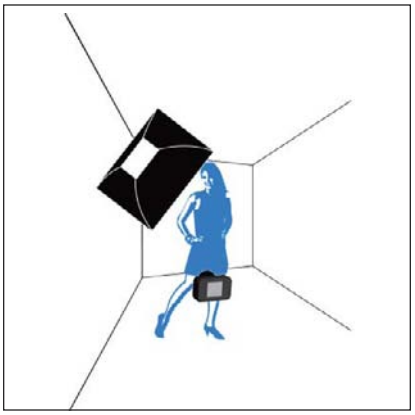
The images below and on the facing page show the effect of creating loop lighting in the studio using a variety of tools.

Loop lighting can be a very effective choice for creating a high-fashion look. Makeup artist Tiffany Pestana-Breaux transformed Serena (right) from a pretty high school senior into a glamorous high-fashion model. A relatively harsh lighting scheme was designed and implemented to accentuate the look.

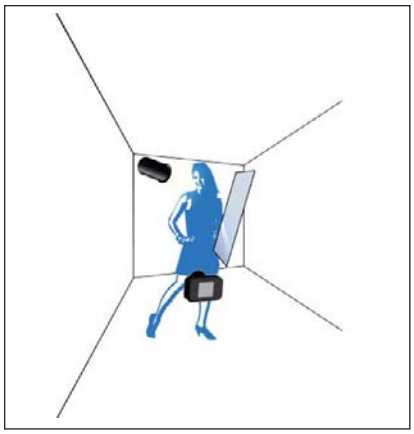


A spotlight with a 40 degree grid was used as the main light for this glamour fashion shot of Serena. A large softbox was used as a fill light to keep the shadows from going too dark. Serena is turned away from the main light, creating a broad lighting pattern.

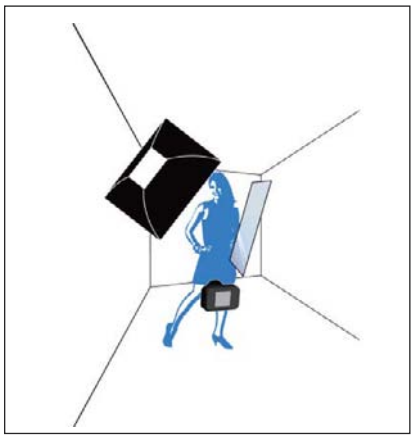




Top and bottom left—The "loop" in loop lighting is the small shadow that extends down and to the side of the subject's nose. Here, the main light is moved closer to the camera axis and is raised higher than in the previous two setups. The length of the shadow is controlled by the position of the light and the angle of your subject's head. ***Top and bottom right***—The larger light source makes the characteristic loop harder to see, but the area between Serena's nose and the left side of her upper lip is still in shadow.



The harsh loop shadow from the spotlight is still apparent with the reflectors in place. The reflectors do soften the shadow a bit, though, and the silver card (right) once again adds more of a shine to the image.

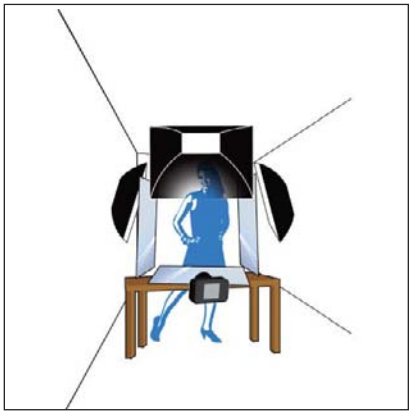


By now it should be no surprise that the shadows are almost eliminated by the reflectors with the softbox moved to the loop position. The wraparound effect of the larger light source, combined with the fill light from the cards, creates a beautifully soft light with a hint of a shadow falling from Serena's nose. We continue to see the differences between using a large white card (left) and large silver card (right) reflector. The white is not quite as specular as the silver.

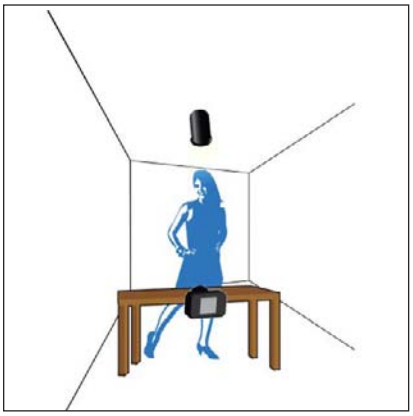
Butterfly Lighting

The term "butterfly lighting" refers to the shadow pattern created by your subject's nose when a light is placed directly in front of him or her and at a higher angle.

Butterfly lighting is what I use to create beauty headshots and/or images for cosmetic and hair product clients. I use it with a reflector in place to fill the shadows and to add a second catchlight in the model's eyes. I usually go with a silver card for a fill, but we created this fashionable senior portrait of Serena (far right) with a silver/gold reflector.

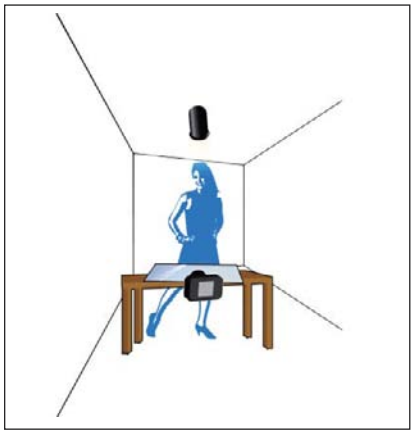


The softbox in the butterfly position with a reflector is the start of my beauty lighting setup. The addition of hair lights and a fan completed a fun shot of a very pretty young lady. We will take a detailed look at this lighting scheme on pages 80–83.

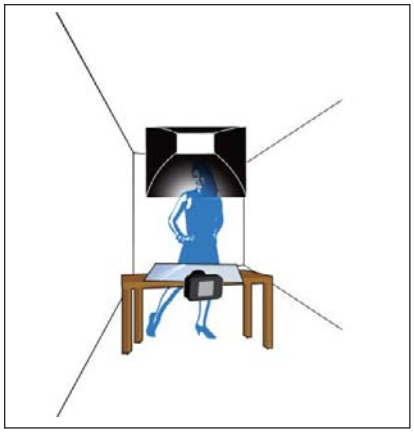


The spotlight clearly shows the butterfly style. The shadow cast by Serena's nose is unmistakable. There is also a deep, dark shadow under her chin. (This can be an effective way to hide a double chin on a heavier model.)

I do like to use spotlights for a dramatic look, but I prefer the larger lights for the butterfly lighting style. The shadows, particularly under Serena's chin, are much less pronounced.



The reflectors are now placed low under Serena and angled back toward Serena's face. The spotlight's narrow beam of light still hits her face and does not provide a great deal of spill for the reflector to catch and bounce light into the shadows. I mentioned earlier that I prefer a larger light source for this style of lighting, but I do like the shine in Serena's hair that is produced by these small sources of illumination.



The butterfly style with a larger light source and reflector is the beginning of one of my favorite lighting techniques. The white reflector (left) works, but for me the silver card is essential for this look (right).

Beyond the Basics

Using Butterfly Lighting to Create Single-Light Fashion Shots

This high-fashion type image was made possible by the use of some simple lighting tools and a few Photoshop tricks.

One light and a reflector were used to create this striking photograph of Vina Vanessa. The model was illuminated by a self-contained monohead in a 30x40-inch softbox. The softbox was attached to a boom and positioned high and slightly to Vina's right. A silver card was placed low and to her left to act as a slight fill source.

Minimal retouching was completed on the original layer. *Note:* I normally do all of my retouching on a duplicate layer, but I always keep the original RAW file to reload if I need to refer to it. I never retouch an image without maintaining an untouched original layer or file.

TERMS TO KNOW

Boom. A boom is a crossbar attached to a sturdy light stand that allows you to place your light in positions that are out of the way and also reach parts of your set that would not be reachable with a standard light stand.

Flat lighting. Flat lighting occurs when the shadow and highlight side of your subject are equally lit, essentially rendering no shadows.

Short Lighting. Short lighting is created when your subject's face is turned into the main light and the distance from his or her ear to nose is shorter on the highlight side than on the shadow side.

Broad Lighting. Broad lighting exists when your subject's face is turned away from the main light, creating a broader highlight than shadow.

3. Quality of Light

TERMS TO KNOW

Specularity/Specular Highlight. Every light will reflect itself—or a replica of itself—off of your subject. You will usually see a bright spot high on your subject's cheek (depending in part on where you place your light). The "specularity" of the light, or its "specular highlight," refers to the size and brightness of the reflection of your light source.

Edge Transfer. The term "edge transfer" refers to the line that separates your highlights from your shadows. The late great Dean Collins used to describe two edge transfers: one from the highlights to the neutrally exposed section and another from neutral area to your shadows. For now, think of it as the point in your image where the shadows begin.

Harsh Light. A lighting scheme with a sharp edge transfer; deep, dark shadows that transition from highlight to shadow quickly; and a small, bright specular highlight.

Soft Light. A lighting scheme with a subtle edge transfer and light shadows that transition gradually from highlight to shadow, as well as a large and spread-out specular highlight.

Two light sources were used to create the basic lighting styles shown in the previous chapter. The small spotlight created deep, dramatic shadows, and the softbox created a much smoother looking image. The photos differ in what is called "quality of light."

Quality of light is a way to describe the relative contrast in your image. The size of the light relative to your subject is one of the factors that determine the quality of light. A small light source, say a spotlight illuminating a person, would produce the bright, specular highlights; sharp edge transfer; rapid transition from highlight to shadow; and deep, dark shadows that are characteristic of harsh lighting. That same light would create a much softer lighting scheme if we were photographing an insect. Therefore, larger light sources, relative to your subject, produce a soft quality of light. (*Note:* In this context, the term "soft" does not refer to photos that are slightly out of focus; rather, it refers to images with broad specular highlights, smooth edge transfers, and a gradual transition from highlights to light shadows.) The distance from your light to your subject is the second factor that determines the quality of light. The same light source placed farther from your subject will produce a harsher quality of light. The sun, for example, is a huge light source, but its size is negated by the extreme distance the light travels to reach your subject. The result is a very harsh light that produces unusable images for most of the day.

In this chapter, we'll take a look at a series of images of Jenie, who was illuminated by different sized light sources that were positioned in the same spot and adjusted to produce the same exposure. Each of these light units was positioned at about the same distance from Jenie; therefore, the difference in the quality of light achieved in each instance is due to each light's relative size. Within each section that follows, we will also examine an image that shows how the particular light was used "in the field."

Bare Bulbs

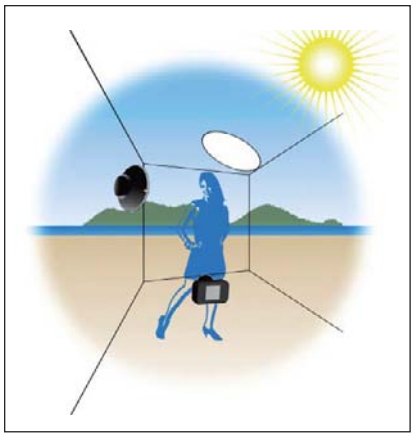
The term "bare bulb" refers to a light source used without a reflector or modifier. The light from such a source emanates equally in 360 degrees.

I don't find a lot of use for a bare bulb source as a main light, but I think that it can be quite effective as a fill source.

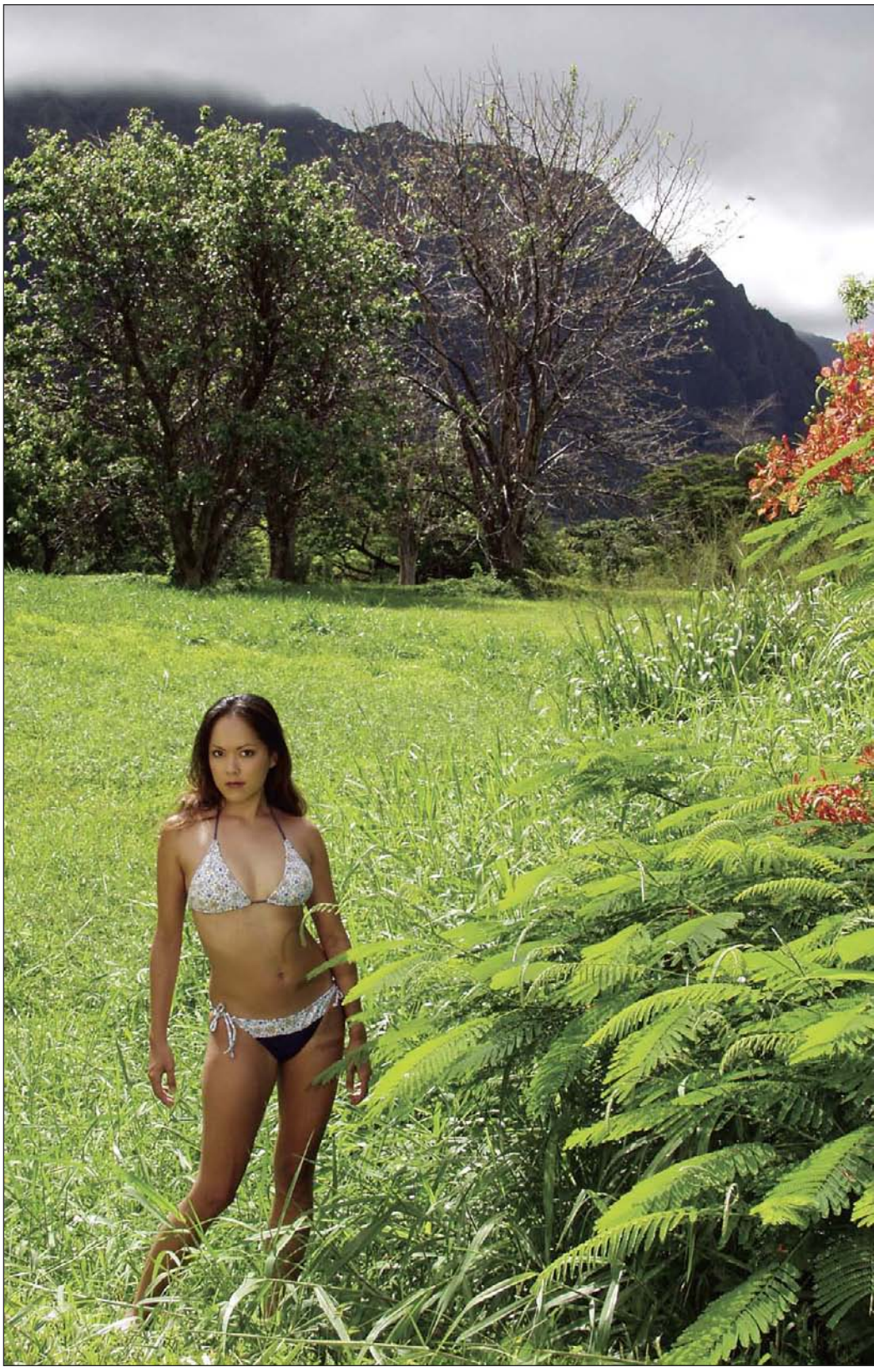
A bare bulb casts light in 360 degrees. The illumination from this source tends to be on the harsh side, but as we will see, it is not the harshest light in the series.

The parabolic reflector takes the light from the bare bulb and focuses in into a much narrower beam, turning it into a spotlight.

A grid narrows the beam of light even more dramatically. Here we used a 20 degree grid to create a focused spotlight that accentuates the harsh quality of light that we began to see in the preceding image. Notice the small bright specular highlight on Jenie's cheek; the abrupt change from highlight to shadow; and the deep, dark shadow from her nose and beyond her left cheek.



Kathryn is backlit by the sun in this environmental swimsuit fashion image. The sun produces a nice rim and hair light and creates a glistening sheen to the leaves on the trees in the background. A bare bulb flash was placed close to the camera axis to provide a flat, equal fill that would not compete with the sun's overall impact on the photograph.



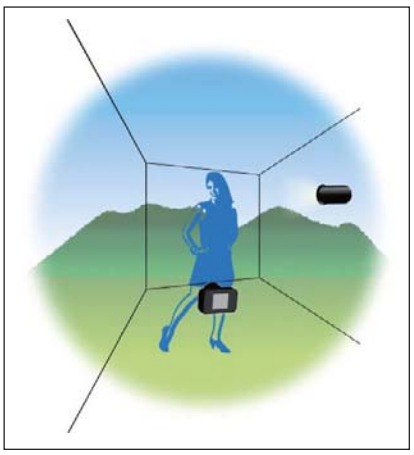
TERMS TO KNOW

Parabolic Reflector. A parabolic reflector is a housing that fits over a bare bulb to catch the light and focus it in one direction. Parabolic reflectors are available in various sizes and reflective surfaces.

Grid. A grid is a device with a honeycomb-like pattern that fits into a parabolic reflector or other light modifier to further narrow the beam of light. Grids are rated in degrees, and the lower the degree rating, the narrower the beam of light.

Spotlights

I will often use spotlights as fill sources for my commercial work. I'll use them as main lights for those special occasions when a harsh light is the right answer for the look I am after.



The light in this jungle oasis was very limited—and too soft and diffuse to create the images we had envisioned. A spotlight was used to add the specular highlights and create a sense of contrast in the image. Water is a highly reflective surface, and the harsh light also helps create the clearly defined mirror image of Marie.

TERMS TO KNOW

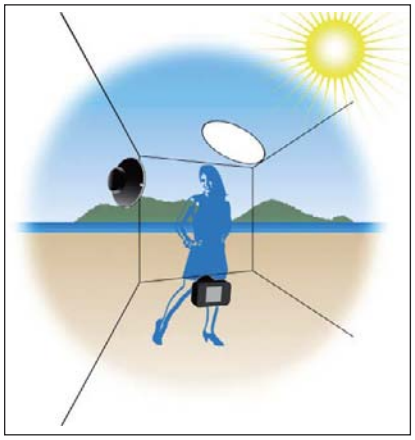
Scrim. A scrim is a piece of translucent fabric stretched over a frame and used to modify or soften a harsh light source.

Flat. "Flat" is another term for a large board that can be used as a reflector.

Beauty Dishes

I was recently introduced to the beauty dish—a modifier that is essentially a narrower and wider version of a parabolic reflector—and it has become a commonly used tool in my arsenal of lighting gear. A beauty dish produces an image with a nice "pop" without creating too much contrast. I realize that "pop" is not a very technical term, but you will recognize when an image has the right amount of contrast because your subject will seem to jump off of the page when you get it right!

The beauty dish is still a relatively specular light source, but we begin to see the differences that the size of the light source makes. The highlight on Jenie's cheek is broader but still apparent; however, the shadows and the shift to shadow are much softer than those created by the spotlights.



It was mentioned earlier that the sun is generally too harsh to produce acceptable images for most of the day. This is especially true at midday, when this image of Flora was created. One way to solve that problem is to place a piece of translucent material between the sun and your subject. The material, or "scrim," softens the sunlight by diffusing it, but also by expanding it to the size of the fabric. I used a strobe and a beauty dish to balance the light illuminating Flora to the background. We will discuss the use of strobes outdoors in detail in chapter 6.

Even softboxes can produce an image with a lot of contrast. The small Stripdome produces a quality of light that resembles some of the images created by the parabolic reflectors. The light is diffused more, so the specular highlight and shadows are not quite as dense, but the image still has a fairly harsh quality.

The medium Stripdome produces a softer feel than the small version, but it still produces light with a clear sense of direction. The shadows are more subtle but definitely apparent. The specular highlight begins to expand as well.

Softboxes

A softbox is a modifier or enclosure with a front panel made of a light-diffusing material. Your light fits into a housing that you use to attach the softbox. The housing will be different depending on your strobe or hot light. The number of connectors will also vary according to the shape of the softbox.

Softboxes work by spreading out the light from what would be a small, specular light source. The inside of softboxes are lined with highly reflective fabric—often bright silver. As the light travels through the expanding corridor, it bounces around the inside of the box, reflecting off of the shiny

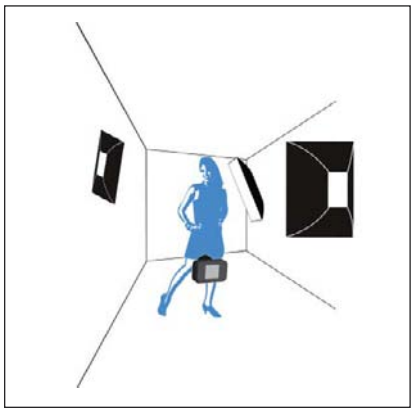
TERMS TO KNOW

Flag. A flag, also known as a gobo, is a device used to block light from falling onto part of your set. Flags are also commonly used to shield your camera lens from any light coming back toward your camera.

fabric in all directions, producing a wall of light that is equal at all points. This light is further diffused as it passes through the outer diffusion material. You can use different colored panels to line the inside of your softbox to change the color of the light. In addition to the standard box shape, round versions (Westcott calls theirs a Halo) and long, narrow versions (Photoflex calls theirs a Stripdome) are available.

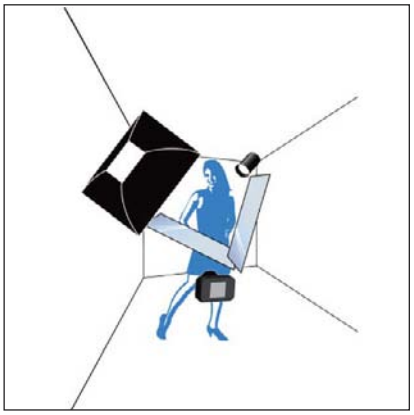
Don't let the term "softbox" fool you. The same laws that govern the effects of the size of parabolic reflectors influence the size of your softboxes: small softboxes produce a harsher quality of light than larger boxes.

Small and Medium Stripdomes. I like to use a Stripdome as a main light to create a dramatic fashion image. The contrast from these small



The main light for this elegant fashion image was a small Stripdome. This modifier provides a nice degree of contrast that accentuates the folds in Marisa's gown. A larger softbox was used for a fill so the shadows did not go too deep. Marisa's back is turned toward the camera in the image, though the diagram shows her facing the camera. The Stripdome in the back of the diagram is creating the spray of light across her back.

Top and bottom left—The large softbox (some manufacturers call the 30x40-inch softbox a "medium" box) produces a specular highlight that is broad and diffuse. The transition from highlight to shadow is smooth and gradual, and enough light wraps around Jenie's face to create soft and light shadow on the left side. ***Top and bottom right***—The large softbox is a beautiful light for a commercial or fashion headshot. It created a nice amount of contrast that helps your subject's face stand out from the image without creating deep, dark shadows that are characteristic of smaller lights. We moved the softbox higher and at more of an angle, but it is still at camera left for this image. A spotlight was positioned behind Flora and to camera right. A flag was put in place to keep extraneous light from entering the camera lens. A large piece of silver-coated Styrofoam was placed just out of the frame at camera right. The first images from this setup were showing too many shadows on Flora's face. We placed a second silver card under the softbox and angled it up toward her face, and voilà—simple beauty lighting!

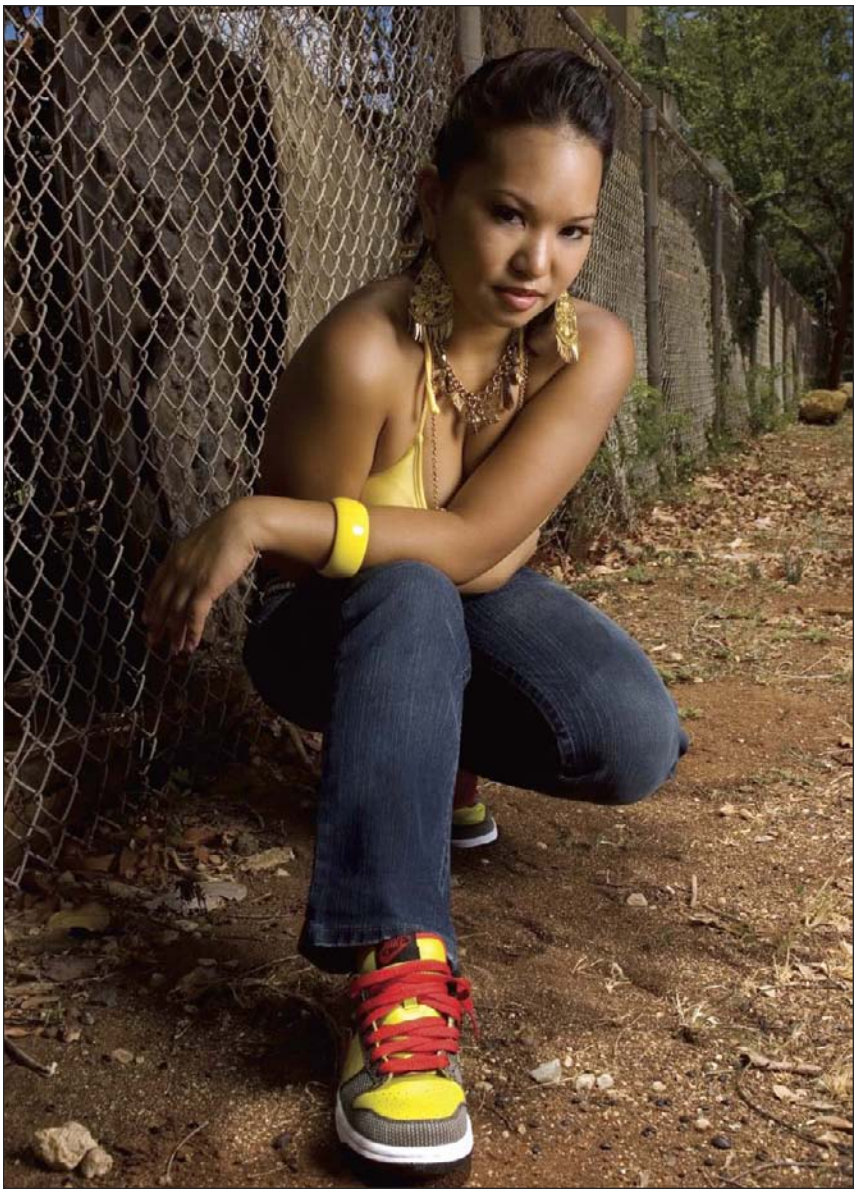


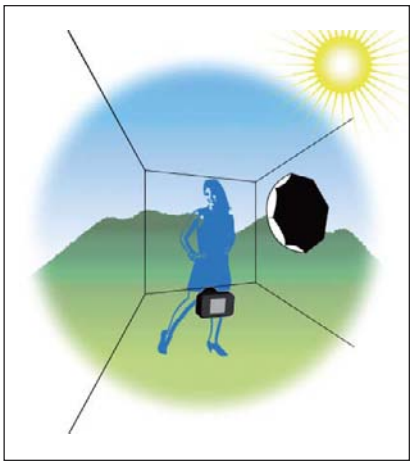
Above—We now begin to see the impact of bigger light sources. The characteristics of soft light are apparent: a gradual transition from highlight to shadow, light and subtle shadows, and a diffuse specular highlight. The shadows opposite the main light are softer because the larger light wraps around Jenie's face to provide a nice fill in addition to serving as a main light. ***Right***—The Halo provides an effective main light for my version of beauty lighting. The basic diagram for this setup was shown on page 32. Replace the softbox with the Halo in your setup. Model: Samantha Chung.

lights can be a bit much, and you risk losing some of the detail in the garment, so I'll sometimes add a larger light to fill in some of the shadows.

Large Softboxes. The 30x40-inch softbox is one of the most versatile modifiers in my tool chest. It begins to show the wraparound nature that softboxes are known for but maintains a nice level of contrast. I love this softbox. I can use it in isolation for a fashion shoot or a portrait, in combination with a reflector or second strobe for a commercial shot, or as a fill source in a complex glamour lighting scheme.

Halos. Halos are also available in various sizes. The Halo used here was actually bigger than the softbox just demonstrated. The shadows are now very diffuse and light, and the specular highlight is spread out. The light





The smaller of my Halos produces a natural looking light source when balanced with sunlight outdoors. The light has a nice sense of direction to it without creating overly dense shadows. There is a hint of blue sky in the background, and the Halo simulates sunshine nicely. A low camera angle, a wide-angle lens, and Teresa Bringas worked together to create a fun and funky fashion photograph.

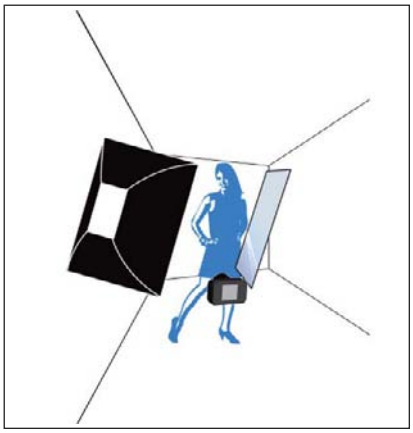
produced by this Halo is almost too soft for me to use in isolation, but it can be a very pretty source of illumination.

Halos were used as the main light modifier for the two fashion images just shown (page 43 and above). The beauty image of Samantha Chung (page 43) was created with the Halo just demonstrated.

Halos are among my favorite tools to bring on location. They set up and pack away easily and are great sources of light to play with outdoors. I tend to use a somewhat smaller Halo than the one just demonstrated when I am working on location. The light produced blends nicely with the light of the sun.

Extra-Large Softboxes. Photoflex's extra-large Litedome measures roughly 40x60 inches (other manufacturers call this a "large" softbox). This sizable softbox was used to create an image that will complete this

Top and bottom left—The 40x60-inch softbox completes this demonstration of the impact that the size of your light will have on the quality of light obtained. Here there are virtually no shadows until we get beyond Jenie's cheekbone. The specular highlight is also so spread out that it becomes one blended highlight rather than a specifically identifiable reflection. ***Top and bottom right***—Glamour photography often involves fairly elaborate sets with numerous lights of various sizes. However, the lighting for this sizzling shot of Jahlynn was very simple: one 40x60-inch softbox and a large white reflector. We had no problem holding the detail in the white tones of her clothing.



Left—Jaime Hightower was a good sport to pose for this awful photograph! The sun's extreme distance from the Earth outweighs its massive size and turns it into a pinpoint light source. Notice how the shadows are dense like in the images created with the spotlight. The highlights are extremely bright as well. The sun is a light source that produces too much contrast to be of much use for most of the day. ***Right***—That's much better! We moved Jaime under a pavilion to create an even and soft light and introduced a strobe for a main light. We'll show how to ensure beautiful light all day in chapter 6.

demonstration of the impact that the size of your light source has on the quality of light obtained. The light, in isolation, tends to be too soft for my tastes. However, I love to use this modifier in conjunction with other lights, and there are times when this light is the perfect choice by itself.

White garments are extremely difficult to photograph without losing detail when working with digital media. The features of the 40x60-inch softbox that were just demonstrated make this my go-to light modifier when I am photographing white garments. The large specular highlight and lowered contrast of this softbox make it easier to maintain the detail in the whites. However, exposure control is still a must.

The Relationship Between Distance and Quality of Light

We just saw that as the size of the light increases, the quality of light softens. That statement is true as long as the distance from your light to your subject remains constant. The quality of light gets harsher as the light is moved farther from your subject. The obvious illustration of this is the sun. The sun is a massive light source, so you'd think that it would produce a nice, soft light. In fact, the opposite is true for most of the day. The sun is so far away from us that the light it throws off is much like that produced by a gridspot.

TERMS TO KNOW

Inverse Square Law. Many photographers cringe when the inverse square law comes up in discussions. However, it is one of those rules that you need to know about. There is a way to explain it mathematically, but essentially it means that, given a consistent output of light from your light source, the amount of light that illuminates your subject lessens as you move the light farther away. Conversely, bringing a light closer to your subject will increase the amount of brightness or quantity—however you want to think about it—of the light falling on your model. The falloff of light occurs in a very scientific and dramatic way. For example, if you double the distance between the light and your subject, you will have 1/4 of the amount of light to play with!

Depth of Light. Depth of light is a companion topic to the inverse square law and states that you will have a consistent exposure over a greater distance as the light is moved farther away from your subject. The sun is again a good example of how this works. I could be 4 feet or 40 feet from my model on a sunny beach. The exposure at all three positions (model position, camera 4 feet away, or camera 40 feet away) will be identical assuming that my camera is in the same light. The sun is so far away and the sun's depth of light is so great that those distances have no impact on the exposure.

The Inverse Square Law and Depth of Light

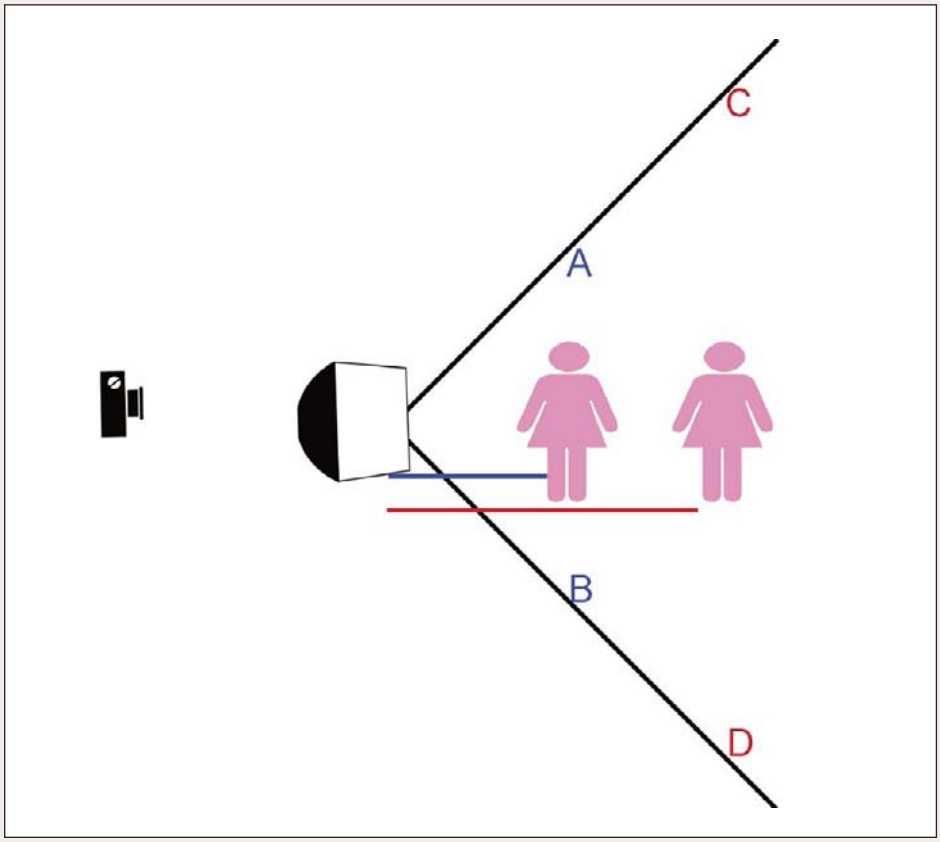
The concepts of the inverse square law and depth of light are so essential to lighting that we need to go into them a little deeper. The diagram below shows what happens when light leaves its source.

The diagram shows two models. Let's say that the first is about one foot from the softbox and the second is about two feet, or twice as far, from the light. Notice that the spread of light is much greater at invisible line C–D than it is at invisible line A–B. The light is covering twice the height (approximately, in this drawing) at double the distance. Remember that it is also covering twice the width, so in actuality it is covering an area that is four times as great when the distance from the subject is doubled. Technically, the amount of light has not changed, but it has dispersed a great deal, so the same amount of light must now illuminate a much greater area. Therefore, the exposure value at a given point will be less. The same amount of light is illuminating more space, so it will be dimmer across the spread, but how much dimmer? The falloff in the exposure value of the light is in the same relationship as its spread. In this case, we doubled the distance and quadrupled the spread. The exposure value at C–D will be ¼ of that at A–B. This is what the name of the law means: light falls off at a rate of 1/distance^2. Here we doubled the distance, so it becomes ½, and 2^2 is 4, so the light value at C–D is ¼, or 2 stops less than at A–B. It works the opposite way too. The light is illuminating ¼ of the area at A–B, so it is 4 times more intense, or 2 stops greater, than at C–D. Let's use actual f-stop numbers to illustrate this further. I will arbitrarily assign the exposure at A–B a value of f/11. The exposure value of the same unchanged light at C–D would be f/5.6.

Now, here's what I think is the hard part about all of this: we know that the light at C–D covers 4 times the area covered at A–B. What this also means is that the exposure will change more rapidly at A–B than at C–D. As the light expands, its exposure value stays consistent over longer distances because it is covering more space—the intensity is less, but the exposure stays consistent over a deeper portion of the image.

On the following page, we will examine three photographs of Flora, our beautiful model who sat in for this demonstration. Flora sat 2 feet from the brick wall for each of these images. A 30x40-inch softbox was set at 2 feet, 4 feet, and 8 feet respectively. The exposure for each image was f/8 at 1/125 second.

The exposure is consistent across the three images because we changed the power of the strobes to balance each one. I'll tell you what the initial exposure was at each distance. Pay attention to three things in each image: the size of the specular highlight, the shadow



Light expands in all directions. As we saw earlier, you can control and narrow the direction and beam of light by choosing a light modifier. However, light will begin its expansion once "released." This diagram, though not drawn to exact measurements, shows how light from a softbox expands. Note that only the vertical expansion is shown here: the light follows the same trajectory along the horizontal plane as well—in fact, it follows the same path along every possible trajectory.

Left—Notice how spread out the specular highlight is with the 30x40-inch softbox placed 2 feet from Flora. It is basically one big highlight. Notice the size of the catchlight in her eyes. The shadows form gradually as well. You might think that the background would be very light given its close proximity to the softbox, but it is relatively dark. ***Center***—We moved the softbox back to 4 feet away from Flora. The exposure in this image is the same as the first in this series because we bumped up the power on the strobe. The metered exposure after moving the light was about f/4 and $^{3}/_{10}$ at $^{1}/_{125}$—the exposure theoretically should have been f/4, but it was pretty close. The specular highlights are more defined, the shadow line is more distinct, and there is more depth to the shadows. The catchlight in Flora's eyes is smaller too. Notice that the background is actually lighter with the softbox at 4 feet than it was at 2 feet. ***Right***—We now moved the softbox to a distance of about eight feet from Flora. Once again, the power of the strobe needed to be bumped up because we doubled the distance from the last shot, and the metered exposure was close to f/4! To think that I dropped physics in high school for an independent study in photography!

density, and the relative exposure of the background.

Several things just happened: Moving the light source farther from Flora made the light smaller relative to her, so we have a harsher light source with greater relative specularity and contrast. We also had a decrease in the exposure value, so we had to compensate by changing the power of the strobe. So, we got back to an exposure of f/8 at $^{1}/_{125}$ second, but it is not the same as it was in the first image in this series. As shown in the diagram on the previous page, the light, pulled back twice as far as it was in its original position, is now providing an exposure of f/8 over an area four times as great as in the first image. The actual distance between Flora and the wall did not change, but the distance from the wall to the light increased. The relative falloff of the light decreased, leading to a more even exposure from our model to the wall.

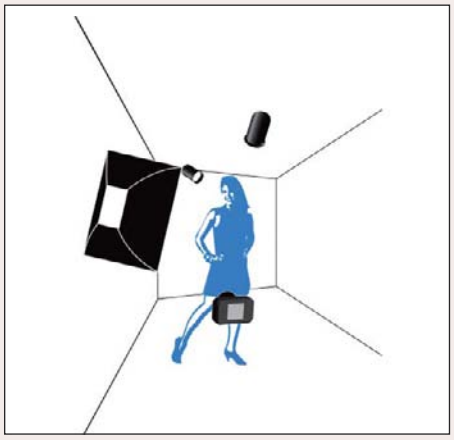
The catchlights and specular highlights are smaller and brighter, indicating, as expected, a harsher quality of light. The background is a little lighter than in the second image in the series, which is also expected given the greater depth of light, but the shadows on the left side of Flora's face are lighter than in the second image! It seems that we are faced with one of those seemingly contradictory situations that often occur in the photography trenches. Before we go into this further, take another look at the photograph: Flora's face is turned more into the light, exposing more of the shadow side of her face to the light. Because the quality of light is harsher, we'd expect deeper shadows. However, the exposure value does not change much from her nose to her ear because of the increased depth of light! We have a hasher light with a more consistent exposure over a greater distance.

Confused? So was I. This is the exact reason why every light or light modifier has a sweet spot where we get the biggest bang for our buck. The sweet spot is the distance that provides the most consistent light while maintaining the best contrast available from the light source.

The sweet spot for any square or rectangular softbox can be determined mathematically: draw an imaginary diagonal line from one top corner of the box to the opposite (bottom) corner. You now have two right triangles with a mutual hypotenuse. The sweet spot for that box is the length that joins those two corners—or the hypotenuse of the right triangles. In actuality, none of the distances used in these examples were ideal. The softbox, placed 2 feet away, was too close and did not allow the light to focus for a nice degree of contrast, and the falloff of light was too great. The 8-foot distance created a sit-

uation where the contrast was offset by the limited falloff. The 4-foot distance was close, but still closer than optimal. The sweet spot for this softbox is about fifty inches from the model.

Note that there are times when you'll want to back your light up to increase the area of consistent exposure. One such time might be when you are photographing a small group and you need the exposures to be consistent from the person closest to the light to the person farthest away.



Top and bottom left—This is one of my favorite setups for commercial fashion shots. The 30x40-inch softbox is set at the appropriate distance to provide the most consistent spread of light while maintaining the best contrast for the size of the box. Marisa's face is also lit with a second strobe set as a fill light. We will cover fill lights in detail in chapter 5. ***Right***—You want to consider the depth of light when photographing more than one or two models at the same time. Your main light will have a more consistent exposure over a greater depth when it is farther away from your subjects. Two main lights were actually used to create this humorous image of Cassie Ann, Samantha, and Serena.

Behind the Scenes of a Fun-Filled Fashion Shoot

This assignment provided a unique opportunity to work on portfolio pieces with and for five very talented ladies: three beautiful models and two of Oahu's top hair and makeup artists. Serena came up with the idea to do a color-based theme, but I figured that it would be a long time before I had that much talent together at the same time and asked Tiffany and Toni to come up with a second theme. Our version of the Harajuku Girls was born. My job, of course, was to come up with the lighting schemes to match the concepts. I wanted to give the images a bit of a fashion flair. The first set was sort of a combination of my beauty lighting and my commercial headshot lighting. I essentially built a silver box by placing a large silver bounce on the table for the "beauty fill" and positioning two larger silver cards on either side of the table. A 30x40-inch softbox was positioned 45 degrees to camera left and was set for f/8. An 18-inch beauty dish was placed behind the camera and angled downward. This light was also set for f/8, so we had two main lights that provided an overall exposure of f/11. Two strobes fitted with 20 degree grids were used as hair/rim lights and were set at f/11 and $^{5}/_{10}$.

The 30x40-inch softbox was replaced with two small Stripdomes, placed on either side of the beauty dish, for the Harajuku set. The combined exposure for the three front lights was also f/11: both Stripdomes were set for f/5.6.

Picking Up the Pace. I have written on numerous occasions that I like to shoot fast. I do so for several reasons: First, I do not want my models to get self-conscious. A fast shooting pace sets the tone and allows the subject to get into the flow. The poses tend to look more natural because she is constantly moving

Top left—This image shows the positioning of my two main lights as well as the camera position. Don't worry about the math in the preceding section just yet. We'll get to that later. ***Top right***—We now see two of our girls, Sam and Cassie, in relation to the set. One of the hair lights is also visible. ***Bottom left***—Here is the set from behind the models. ***Bottom right***—Lighting is not the only variable to be considered in a successful fashion shoot. The models often do their own makeup for my shoots, but this was one time where we needed to bring in the professionals! Toni Farley does an on-set touchup of Sam's makeup here.

Top left—Posing is also a critical component in the success of your shoot. Small things, like the angle of the model's chin or the position of her hands and wrists, can make or break the image. Here I am giving Cassie Ann some pointers on how to bend her wrists to achieve a flattering line. ***Bottom left***—Here is the main lighting for the second set of images created that night. ***Top and bottom right***—It was a great pleasure creating these images with the talented team that we assembled. Tiffany and Toni did a phenomenal job with the makeup; Marshall, Kyler, and Jon worked hard behind the scenes to make it happen for us; Jocelyn was on hand to chaperone our younger models; and of course Samantha, Serena, and Cassie Ann were so much fun to work with! *Mahalos!*

from one pose to the next. Second, I do not want to give her time for the pose to get stiff. The third reason why I prefer to shoot fast is the outtakes that I capture between the more serious shots. I keep them through the initial edit to show the model because it helps to remind her that even though we were working to create great images, we had fun doing the work! In this case, with three girls who were willing to be as silly as they were beautiful, the results were hysterical! I'm not sure that the outtakes aren't actually the best shots taken. Enjoy . . . and have fun!

Above—The portrait of Tasha was taken in the late afternoon, and the whole image has a warm tone to it. The "warmth," or amber cast, is actually caused by the lower color temperature of the late-day sunshine. ***Facing page***—This image of Marisa was created at midday. Her skin tones were warmed up slightly by the use of a strobe and a soft white beauty dish. However, the overall tones in the image are "cooler" than those in the photograph of Tasha. Midday sun has a higher color temperature than late-day sun.

Color Issues

There is one more property of light that we need to discuss before looking at the different setups. Light will have a different color depending on several factors.

Some issues related to the color of your photographs were raised in chapter 2. You may recall that the images created with a silver parabolic reflector had a distinctly different color than those created with a softbox. Silver objects, such as a parabolic reflector, raise the color temperature of the light and will create a bluish tint to the image if the white balance is not adjusted. Conversely, white materials such as the translucent fabric used in the softbox will lower the color temperature of the light. The result

TERMS TO KNOW

Color Balance. Color balance refers to the amount of reds, greens, and blues that are emitted from a light source. Most lights send out relatively equal amounts of light along these spectrums and are said to be in balance. Other lights, like old fluorescent tubes, are out of balance because they emit more light along one of the spectrums than the others. You may have seen a greenish tint to photos taken under fluorescent lights. The greenish hue is created because these lights send out more green light than red and blue light.

Color Temperature. Light sources are rated using the Kelvin temperature scale. Daylight, for instance, has a color temperature of around 5500K, and household lightbulbs generally have a color temperature of about 3200K. The lower the color temperature, the warmer the color of the light; the higher the temperature, the cooler its color.

We mentioned earlier that a color shift can occur when the source outputs an unequal amount of the three colors of light. A color shift can also occur with a balanced source when the correct white balance setting (preset or custom) is not set on the camera. Film photographers can encounter a color shift when using a film that is not properly matched to the light source (e.g., when photographing indoors [tungsten light] with daylight-balanced film).

White Balance. White balance is the term used to describe a digital camera's ability to neutralize the color casts that are produced when working with various light sources. Most good digital cameras have several presets (e.g., incandescent light, shade, etc.) that can be useful in rendering image tones as neutral. Most cameras also feature an auto white balance setting, but I tend to avoid auto settings of any kind. You could also set a custom white balance each time you change the lighting.

of shooting through or off of white materials will be an image with an amber cast if the shift in color temperature is not cancelled.

The time of day also plays a role in the color temperature of sunlight. Sunrise and sunset have a lower color temperature, yielding a more amber color shift than we get during midday.

Why wouldn't you take every effort to neutralize color shifts that occur from different color temperatures? Unlike color balance issues, color temperature questions become part of your creative vision. Green skin caused by fluorescent lights must be fixed, unless you are going for a ghoulish look! However, the choice of whether to let an image have a warmer or cooler look is a personal decision. You certainly could do a custom white balance each time and get close to perfectly neutral tones, but my personal tastes are to let some of the subtle differences show—especially on the amber side. My personal approach is to leave the white balance on my camera set to 5,500K and let the chips fall where they may. The color correction technique shown in chapter 4 removes most bad color casts anyway.

Facing page—Use your camera's white balance function to match what the camera expects to the actual light recorded. You can set your camera to Auto White Balance, but I try to avoid auto settings whenever possible. You can also do a custom white balance with many cameras. I shoot most of my work outdoors or in studio with strobes, so I tend to leave my white balance set to Daylight or Flash. The image of Tiffany shows that this works for me!

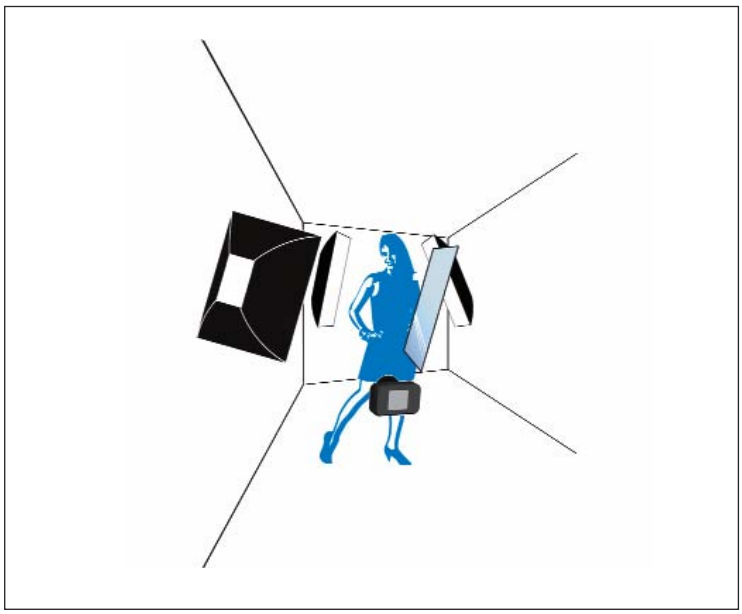
4. One-Light Setups

So, where do you begin this journey now that you are armed with some of the basic—and not so basic—concepts? Starting with one light seems logical. You've seen that the size and placement of your single light will have dramatic effects on your image, but can you really create memorable images with just one light? The answer is, *absolutely*—though you'll probably want to add more light fairly soon. Let's take a look at some of the things you can do with one light—both in the studio and outdoors.

Left—The medium Stripdome really accentuates Vina Vanessa's figure. ***Facing page***—The extra-large softbox creates a soft but effective fashion portrait of Crystal Bell. I like to try to simulate light from a large window when I shoot against the brick wall in my studio.

The sun would naturally be your most obvious single light source for outdoor shoots. However, we saw on page 46 that the sun is a lousy unmodified light source for most of the day. The following photograph of Naomye Leiza was taken without modification during the short window of opportunity known as "magic light," the thirty to forty-five minutes after sunrise or before sunset when the sun produces the finest light for photographing people. The sun is closer to the horizon, so the light rays travel farther and get broken up more by atmospheric interference. The light is still directional, but it is more diffuse during this time than it is at

Magic light is some of the prettiest and easiest light to work with. It produces a natural amber hue, and although it tends to be softer than midday light, it is still directional. Position your camera with the sun over one of your shoulders, meter, and shoot. There is no need to worry about balancing your foreground to your background because the light will generally be the same when shooting from this position. There is one caveat, though: be prepared for the good light and shoot fast because it won't last long.



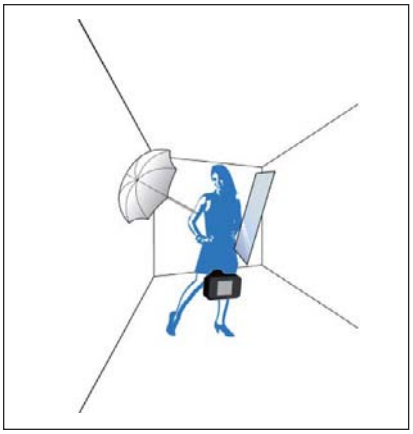
Top and bottom left—The main light for this glamour/fashion image of Teresa was a 30x40-inch softbox. The hair/rim lights were small Stripdomes. The large softbox was positioned at 45 degrees to camera left and feathered so the inside edge of the box lined up with Teresa's right cheek. The softbox provides a nice degree of contrast and subtle shadows that help define the contours of her face. ***Top and bottom right***—The addition of a silver card brought in close to Teresa turns this into more of a glamour portrait. The shadows are neutralized, and the silver reflector bounces a lot more shine into the image. Neither image is "correct"; it is all a matter of taste. Jon couldn't take a behind the scenes photograph of this setup because he was holding and moving the reflector!

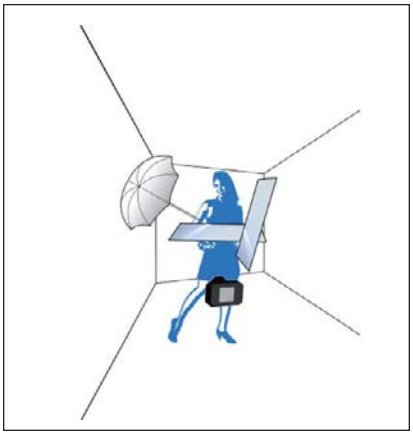
midday. The sun is lower in the sky, so it is also easier to place the shadows where you want them.

Modifying Light with Reflectors

The simplest way to "add" or modify the light that you have is to use a reflector. Reflectors, as noted early in this book, do not technically *add* light to a scene—they catch light that passes your subject and redirect it where you want it. Like most types of modifiers, reflectors come in many shapes, sizes, and colors. We saw some differences between the effects of using white and silver reflectors in the discussion of lighting styles in chapter 2.

Reflectors can dramatically change the look of your image whether you are using a single light source with the bounce card or are adding the reflector as an integral part of a more complex setup. The images of Teresa Bringas (previous page) show how dramatic the change can be: the beautiful thing is that you get to decide which image or look you like the best.



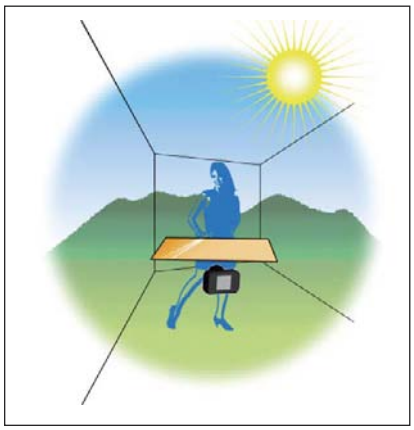


Above—Umbrellas are great light modifiers. They are easy to use and fold up quickly for easy storage and transport. Many "starter" kits include an umbrella or two. The discussion about the size of your light source and its impact on your images pertains to umbrellas as well because they can be relatively small, like the one shown here, or huge! The relatively small umbrella provides a nice degree of contrast for your image. ***Top and bottom left***—This is an example of when and how the preview screen on your digital camera can save a shot. We were shooting a moodier fashion setup where the use of one reflector worked nicely for the full length and three-quarter images, but did not cut it for the close-ups. The position of the umbrella cast a shadow from Tracy's bangs and created deeper shadows than I wanted along her cheekbone. One look at the preview and I knew that I had to make a change. ***Top and bottom right***—We added a second silver reflector under Tracy at about her waist and angled it toward her face. The difference is dramatic and shows just how effective one light and two silver cards can be in creating a beautiful image. This is one of my favorite images. Thanks, Tracy!

We haven't looked at the use of umbrellas yet. An umbrella is a simple, concave light modifier designed to spread the light emanating from a strobe or other bulb source. Umbrellas come in many different sizes and reflective surfaces. Some umbrellas are designed for you to shoot the light through the fabric rather than bounce the light off of the surface. Umbrellas are frequently used light modifiers and are extremely easy to set up and tear down.

Sometimes one reflector is not enough to create the image you want. We set up a large silver card to Tracy's left to catch light from the umbrella to fill in the shadows created by a moderately harsh light source. It was not enough!

Reflectors can save your shot on location too. Central Oahu boasts some stunning views of the Koolau Mountain range. It is, however, hard to shoot in these locations using magic light because the sun is blocked by

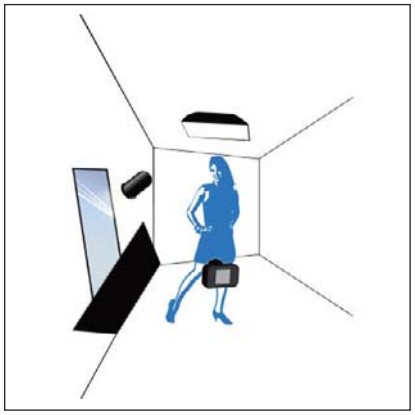


The sun was very high in the sky but somewhat behind Kathryn for this scene. The direct sun acts as a great hair and rim light, adding a sense of dimension not only to Kathryn, but also to the mountains behind her. You can see just how bright the sun is by looking at the blown-out highlights on the table and benches. The main light for the image comes from a 77x77-inch gold reflector positioned on the ground and angled up toward Kathryn. The bounced light is enough to fill the shadows but does not equal the light directly hitting her hair, shoulder, and top of the legs. The difference in exposure value between the direct rim light and the reflected main light is what creates the accent light. Notice also how the table acts as a reflector and adds an accent light to the bottom of Kathryn's legs.

the mountains. You are often faced with overhead light to deal with—when you aren't fighting with a constantly changing cloud cover! Reflectors can be a shot saver.

Using a reflector to create a main source of light has come in handy on several occasions. One such time was a recent location shoot. It was supposed to be one of those spectacular Hawaiian days, with beautiful sunshine to match the incredible scenery. The game plan was to head up to the North Shore for a series of location shots with Raeceen Woolford, a former University of Hawaii–Wahine volleyball standout and Miss Hawaii 2009

We needed to use our imaginations to salvage what was turning into blah and boring light. Instead of sticking the strobe into a Halo, we aimed the unit with a 30 degree grid into a silver/gold reflector. The gold in the reflector added the "warmth" we wanted, and the silver added enough "kick" to make this work. We also used a little help from Photoshop as described in chapter 7.



Get your lighting set up and then let your model take over. I couldn't shoot fast enough to keep up with Tishanna as she added her own flair to a commercial shoot. She's always a lot of fun to work with, and the images are always great—and often funny!

title holder. The weather for our 2:00PM rendezvous was less than impressive. There were breaks in a thick cloud/vog cover ("vog" is a term for the volcanic ash that occasionally travels up the island chain from the Big Island), but it wasn't a "postcard" day. We bailed on the road trip and decided to try a location closer to town.

Sand Island is not necessarily known for its spectacular beauty either—it is very industrial and it is the harbor for the major moving companies to unload their goods. However, there is a small beach park at the end of all of the junkyards and loading docks, so off we went.

The initial challenge was to create light that wasn't flat and boring. Nature had provided us with a huge softbox, but there was no life to the light. The color temperature would be on the high side and would yield a bluish color cast. Popping a strobe would help give some contrast and direction to the light, but it would't do much to create the warm glow of the Islands.

There have been many times when I have used reflectors in conjunction with a strobe on location, but this combination was unique. We fit a 7-inch parabolic reflector over one of my Dynalite Uni400 units and put in a 30 degree grid. We then dragged out my five-in-one reflector set (I think it is 42 inches) and chose the silver/gold reflector. My buddy Domi (thanks Domi!) held the reflector over his head and angled it down with the strobe aimed into the reflector. We tried our best to match the exposure of the now changing background, but we needed a little help, so I bumped up the ISO on my camera to 200 (and metered it for ambient plus strobe at ISO 160), and suddenly we were back in Hawaii!

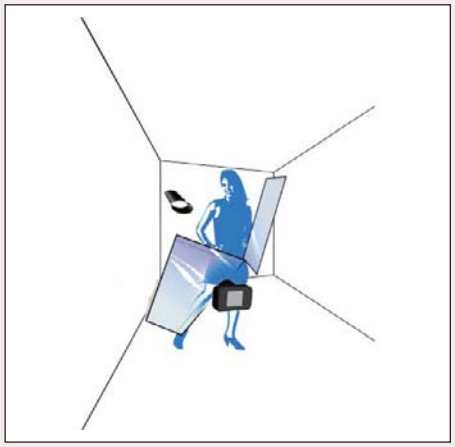
We have taken the same idea and made it work in the studio. A large white flat was placed along the bed (to the left of the camera, just out of the frame). We fired a strobe into the flat, creating a large, soft light source for this engaging photograph of Tishanna. The reflection off of the white card was too much for the white bedspread, and we lost detail. We solved the problem by placing a black flag between the light bouncing directly off of the card and the bedspread. This cut the light dramatically but allowed enough light to spill over and render the spread white. A medium Stripdome was used overhead to illuminate Tishanna's hair slightly.

Making the Most Out of One Light

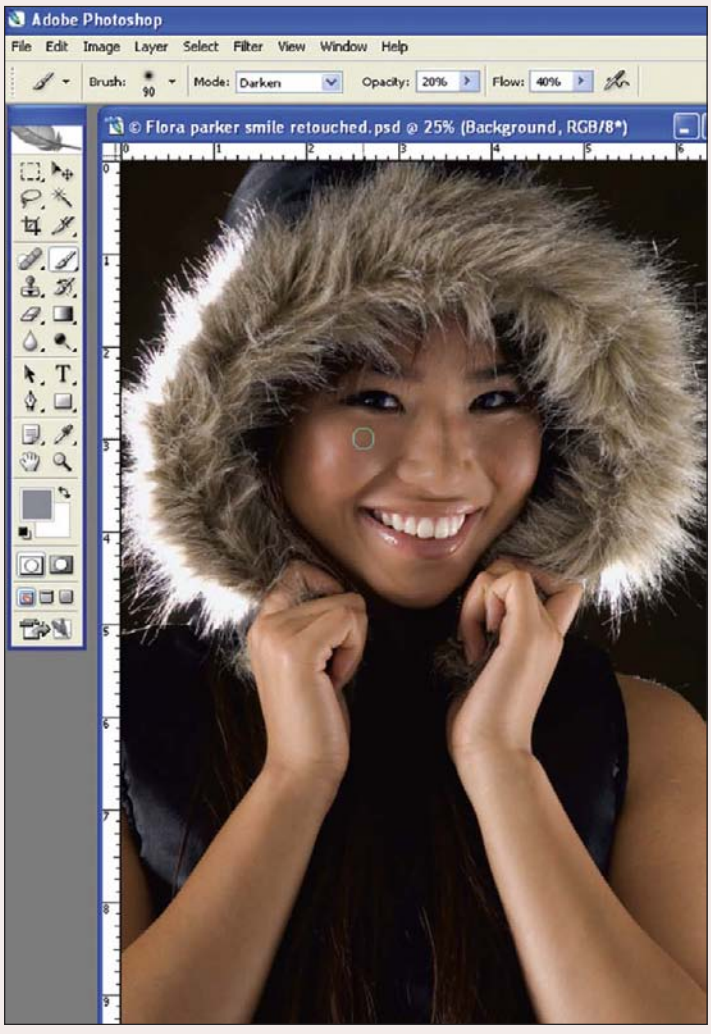
We are going to turn one strobe into a hair/rim, main, and fill light in this lesson. We know that light falls off quickly but that the exposure stays more consistent when the light is farther away from your subject. We are going to exploit these facts to make this lighting scheme work.

The first thing we are going to do is place our model about eight feet from the backdrop and position a strobe with a 40 degree grid right by the backdrop, pointed toward the model. The 40 degree grid will narrow the beam of light to keep it within a controlled area—we don't want a lot of uncontrolled light blasting back toward the camera, but we do want enough spread to effectively bounce light off of the reflector.

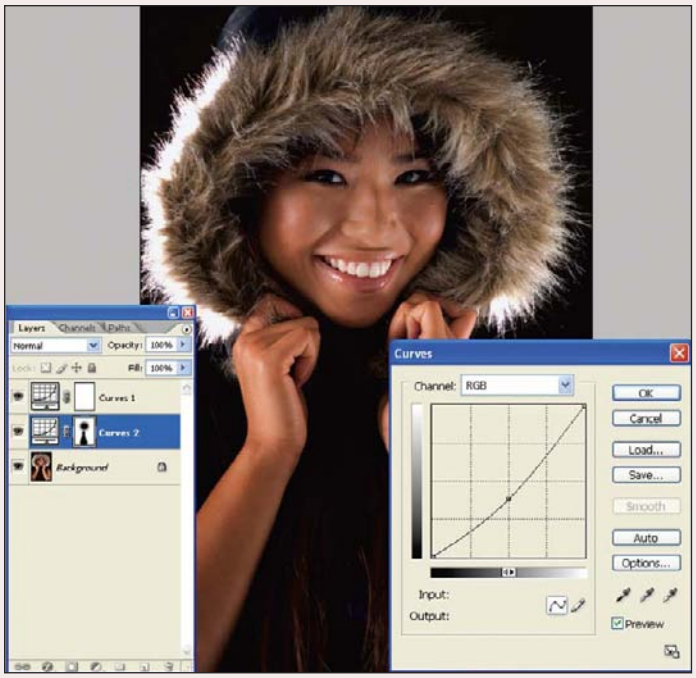
Next, we are going to place a large silver card 2 feet in front of our model. The light from the gridspot travels 2 feet past the model to strike the reflector (traveling a total of 10 feet), then bounces off the reflector and travels 2 feet more. The falloff from that point won't be too great because the light hitting the reflector is only traveling 2 feet to reach Flora. The spotlight is now the hair light, and the reflector is the main light. We actually want the light to fall off somewhat because we



Left—The highlights from the reflectors were brighter than I expected, so I used the Brush tool in Photoshop to tone down some of the hot spots. I set my brush opacity to about 20% and the brush flow to about 40% (thanks, Stan!) and set the blending mode to Darken. I used a sample of the darker tones around the hot spots to select my paint color (use the Eyedropper tool and alt/click the spot that you want to sample). The image shown on the left is a screen capture of the photograph after the hot spots were toned down, but it shows the brush settings and an approximate place that I would sample for one paint color. I then simply make as many passes with the Brush tool as I want, with each stroke adding a little more paint. ***Top and bottom right***—Here are a diagram of the setup used to create the shot and the image after some basic retouching and a simple Curves adjustment layer for color correction.


Adobe Photoshop
File Edit Image Layer Select Filter View Window Help
Brush: Mode: Darken Opacity: 20% Flow: 40%
© Flora parker smile retouched.psd @ 25% (Background, RGB/8*)

Left—I simply added a new Curves adjustment layer and pulled the center point of the curve down a little. The screen capture shows that the adjustment layer comes with a mask. I selected black paint and painted over the mask to let the original tones of Flora's face and hair show through. ***Right***—The second Curves adjustment layer darkens the areas around Flora's face and draws your eye to her pretty smile.



want the hair/rim light to be a bit "hotter" than our main light. The exposure at the back of Flora's hood was f/11 and $^{7}/_{10}$. The exposure at her cheek (from the reflected light) was f/8 and $^{3}/_{10}$.

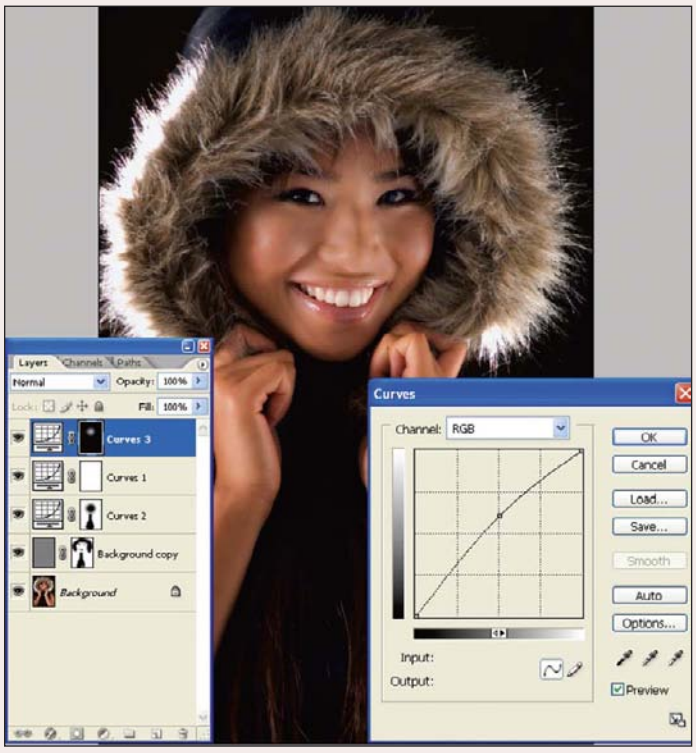
We completed the setup by adding a second reflector opposite the main light (the first reflector) to catch and bounce any light that passed our model. Here's how it worked: The light from the gridspot directly lit Flora's hair and acted as a hair light. The light that passed her hit the first large reflector, which was positioned to catch the overflow and light her face. The angle of the reflector ensured that some light would pass Flora and hit a second reflector. The light off of the second reflector provided a soft fill.

Flora's arms and hood were still a little too bright for me, so I added a second Curves adjustment layer to darken the image.

I wanted Flora's skin to glow in this image, and I discovered a really cool skin softening technique! It comes to us from Dave Cross at www.photoshopuser.com. He got it from David Ziser—so from David, to Dave, to me, to you! The best part is that this effect is adjustable. I wrote an action for this because I might be using it a lot from now on! Here it is:

1. Duplicate your main retouched layer.
2. Change the blending mode to Overlay.
3. Apply the High Pass filter (hidden in the "Other" filter section). I kept the default of 10 pixels.
4. Inverse the effect by hitting ctrl/cmd + I.
5. Lower the opacity of this layer to what you like (I use 40% as a starting point); you can always adjust it later.
6. Apply a layer mask.
7. Select the Brush tool and set the foreground color to black.
8. Stop recording if you are recording an action.
9. Paint in the details in the eyes, eyelids, mouth, and hair.
10. Check/adjust the opacity of the filtered layer.

We are almost finished with the image, but I want to add a little more emphasis to Flora's face. A third Curves adjustment layer will do the trick!



Top left—The screen capture shows the layers after running the softening action. Notice that I set the opacity of the softened layer to 50%. ***Top right***—The softening effect produces a nice smooth finish to Flora's skin that helps create a more glamorous feel to the image. ***Bottom left***—I added a final Curves adjustment layer, this time pulling up on the center dot to lighten the overall image. I used the Paint Bucket tool with black paint and clicked on the layer mask. This filled the mask with black and hid the effect I had just created. I then switched the foreground color to white, selected the Brush tool, and painted over Flora's face at a low opacity to slowly lighten the area until I had what I wanted. ***Facing page***—We created a fun and glamorous look for Flora with one light, two reflectors, and some basic Photoshop techniques. You can too! See chapter 7 for more basic Photoshop techniques.

Light Ratios: Altering Contrast by Moving Your Reflector

Even though you are not technically adding light when you use a reflector, you are altering the image by filling in areas that would otherwise be in shadow. You are changing the ratio of light from highlight to shadow.

If you are using a reflector to fill the shadows, then you control the lighting ratio by moving the card closer to or farther from your model. The inverse square law kicks in again here, as the falloff of light dictates the amount of fill provided when the reflector is positioned at different distances. We placed a California Sunbounce silver reflector 4 feet, 2 feet, and 1 foot away from our model. *Note:* The proper place to put your reflector is in front of your model if you want to effectively fill in the shadows from

TERMS TO KNOW

Lighting Ratio. A lighting ratio is a numeric description of the difference in intensity between the highlight side of the subject (illuminated by the main light) and the shadow side of the subject (illuminated by a fill light). A higher ratio indicates more contrast, or a greater difference between the highlights and shadows. Therefore, a lighting setup that yields a 5:1 ratio will have more contrast than a flat 1:1 ratio.

Left—We start with an image with no reflector—just the wraparound created by the 30x40-inch softbox. ***Right***—A bright silver card can create a nice fill, even at a distance of 4 feet from Flora.

your main light. The best angle for your reflector will be the exact opposite of your main light. If you place your main light at a 45 degree angle camera right, then place your reflector at a 45 degree angle camera left.

Many photographers prefer to use reflectors as fill sources because as long as you have some kind of continuous light source, either natural light or a modeling light on your strobe, you can see the effect of the reflector and adjust it to your liking to create the shot you envision.

Left—The reflector is now 2 feet away from Flora, and its reflection is much brighter. ***Right***—Now, with the reflector placed 1 foot from Flora, the reflected light is just about as bright as the main light. It is, in fact, a little too much for my taste for this type of shot. I might love it in a different setup.

5. Multiple-Light Setups

So far we have played with bouncing light around using reflectors. However, you have to use strobes—or more strobes—if you really want to *add* light. When you add strobes to your set, the light will either overlap with other light sources or it won't. It is easy to deal with additional lights that don't overlap, and we'll look at some of those situations in a little while, but for now, it is time to tackle the problem of overlapping light sources.

The Additive Nature of Light

When two or more lights overlap, the exposure value of the lights must be added together. The law that determines how light values are added is known as the additive nature of light.

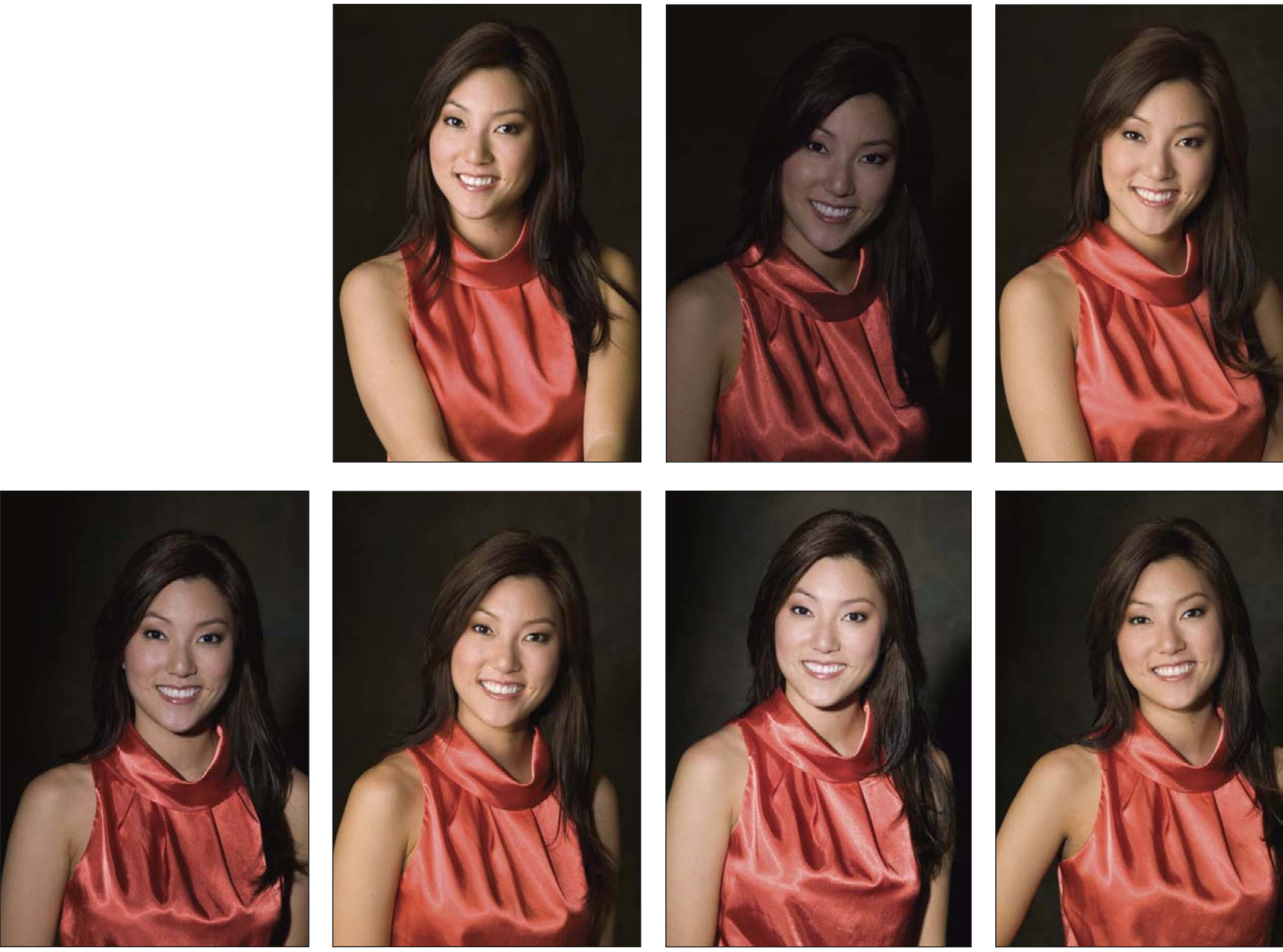
Let's look at some images of Lindsay (facing page). The main light (in this case, the 30x40-inch softbox) was positioned at a 45 degree angle at camera left and placed about five feet from Lindsay. This is the spot that I usually use for commercial headshots. The first image shows just the main light, exposed for f/11.

When you add strobes to your lighting setup to fill in the shadow, you are creating what is called "power fill" (as opposed to "reflected fill"). In the following examples, we will use a spotlight with a 20 degree grid for our fill source. The power fill is not supposed to change or modify the effect of the main light: the direction and style dictated by the main light is still apparent, just more subtle depending on the strength of the fill light. The fill light is placed very close to the camera axis because you want it to illuminate the highlight side and shadow side equally. Slight variations are possible by placing the fill on the same side of the camera as the main or on the opposite side, but either placement will have the same practical effect. We are going to start with the fill light set for f/5.6.

When two or more lights overlap, the exposure value of the lights must be added together.

Changing the power of the fill light to provide an exposure of f/8 will make a big difference in the look of the photograph. The fill light is now one stop less than the main and will add ½ a stop to the highlight and shadow side of Lindsay's face.

We will now set the fill light to read f/11—just what the camera was originally set for.



Left to right*—*(1) By now you'll recognize the effect of this softbox in isolation because we have seen it before. The softbox produces a nice wraparound light with a good degree of contrast. The position of your main light dictates the highlight side of your image. The highlight side for these images is the right side of Lindsay's face. ***(2)*** The fill light is set at f/5.6, which is 2 stops less than what the camera is set for, producing a very dark image. However, this light will add to our main exposure when the main light is turned back on. ***(3)*** The fill light that is set 2 stops less than the main doesn't really add much light to the shadows—the effect is very subtle, and there isn't even much difference on the highlight side because this light is only adding $^{1}/_{4}$ of a stop of light to the overall equation. The exposure at Lindsay's cheek on the highlight side was f/11 and $^{2}/_{10}$ to $^{3}/_{10}$. ***(4)*** The image with the fill set for f/8 is still dark when exposed at f/11 because it is providing one stop less light than the camera is set for. However, we can begin to see that there will be a big difference when this light is added to the main exposure. ***(5)*** The fill light set at one stop less than the main really makes a difference in the image. This is the setup that I use most often when creating commercial headshots and even commercial fashion images. The fill light added $^{1}/_{2}$ stop of light, so the exposure at Lindsay's face on the highlight side was f/11 and $^{5}/_{10}$. ***(6)*** Now the "fill" is set to an exposure equal to that of the "main." The terms are in quotes because, at this point, the both lights are essentially main lights. ***(7)*** The softbox and the spotlight are both providing an exposure of f/11 to the highlight side of Lindsay's face. Since they are both providing the same amount of light, the actual exposure doubles to f/16. The spotlight has more contrast than the softbox and now appears to have a greater impact on the look of the image.

Intermediate F-Stop Values

You are not alone if you find mixing lights of different exposure values a confusing proposition. You just saw the results, but how and why did the numbers add up the way they did? The actual math is relatively simple; it is basic algebra dealing with whole numbers. However, f-stop language does not easily translate into whole numbers language. Let's first examine the relationships between f-stops and deal with the algebra. We will then plug f-stops into the equation.

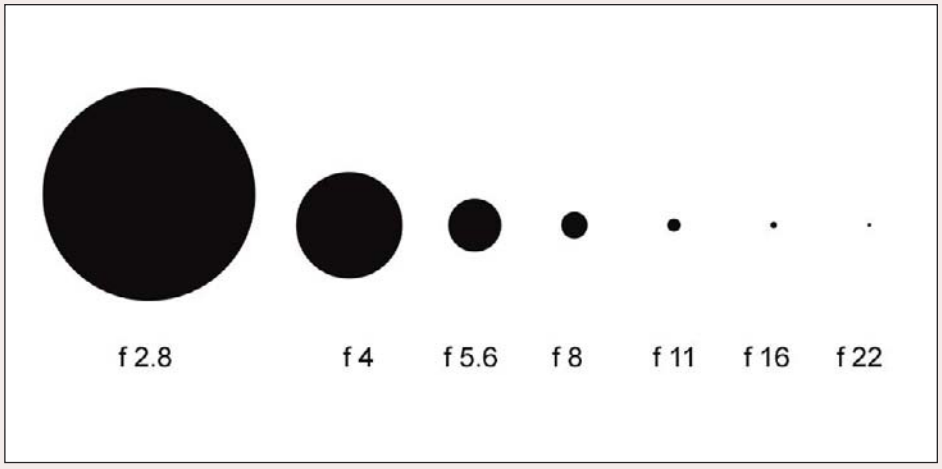
Part of the "problem" with today's cameras has to do with the way they display f-stop values. We can now "see" *intermediate* values between whole f-stops. Forget about the intermediate values for the time being and pay attention to the whole stops. The term "f-stop" refers to the camera's aperture, but it is actually a ratio that expresses the diameter of the lens opening in relation to the focal length of the lens. For example, f/4 would yield an actual diameter of 12.5mm on a 50mm lens and 25mm on a 100mm lens. It is the ratio that allows us to use the same f-stop values across different lenses. Now, these ratios are in exact proportion across the f-stop dial. Each whole f-stop is exactly twice or half as large as its immediate neighbor. So, f/8 is twice as large as f/11 but half as large as f/5.6. Therefore, f/8 allows twice as much light into the camera as f/11, but half as much as f/5.6. (*Note:* This relationship is illustrated in the top diagram.)

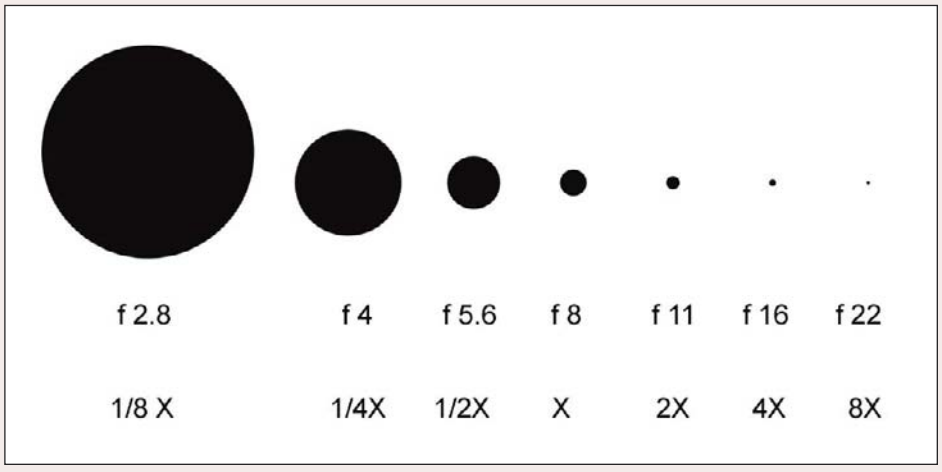
This relationship holds true for every f-stop, so the given f-stop is the variable in the equation, and the relationship between f-stops is the constant in the equation. Let's assign any f-stop the variable value of X. The amount of light needed to obtain a correct exposure at a set shutter speed and ISO by X and its neighbors can be graphically depicted as shown in the bottom diagram. (We'll assign X a value of f/8 for this chart.)

Let's take a look at a couple of examples. We'll look at them from an exposure viewpoint first. A little later in the chapter, we'll look at them in terms of lighting ratios.

The relationship between the exposures is straightforward, and light is additive in exactly the same relationship: two exposures at f/8 are equal to one exposure at f/11. Similarly, four exposures at f/5.6 are needed to match the quantity of light at f/11.

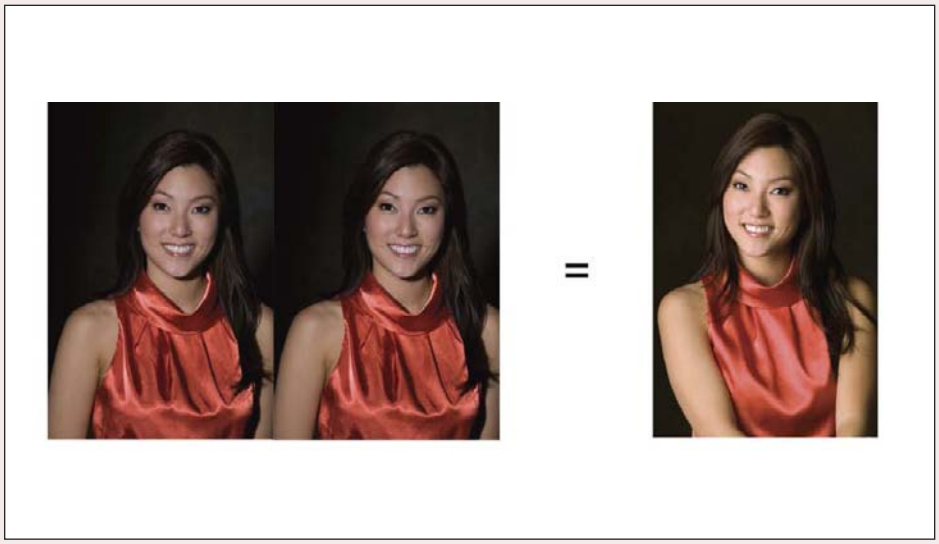
The value of the final exposure increases in exact proportion to the value of the overlapping lights. Let's examine





Top—This graphic shows the relationship between whole f-stops. It was created in Photoshop simply by doubling the size of the number of pixels in my brush, but the concept is the same: each dot represents an f-stop—or the size of your lens opening. If your shutter speed remained the same, then the opening represented by f/8 would allow twice as much light into the camera as the opening represented by f/11, but half as much as f/5.6. ***Bottom***—So, we have arbitrarily assigned the exposure value that we want as f/8. We see that the dot representing f/5.6 is twice as large as that representing f/8. If we now decided to use f/5.6 as our desired exposure value, we would need half as much light because the lens opening is twice as large. If, on the other hand, we decided that we wanted an exposure value of f/11, we would need a light source twice as bright as we did at f/8 because the lens opening at f/11 is half the size of f/8.

Left—This image, metered at f/11 and exposed at f/11, is properly exposed. The light has a harsher quality because it is a spotlight. ***Right***—The left image in this pair shows the effect of dialing the strobe down to f/8 without changing the aperture. The quantity of light is half of what it was, and the camera opening is now half the size of what it needs to be to record a neutral image, so the resulting photograph is one stop underexposed. The right-hand image shows what happens when you open the lens up to match the exposure of the dimmer light produced by the strobe at f/8.



Left—On the left side of the equation we have the exposure achieved by setting the spotlight at f/8 but exposing at f/11. It takes two of the f/8 exposures to equal the amount of light produced at f/11. ***Right***—The strobe is now set at f/5.6, providing ¼ of the light needed to match the exposure at f/11. We must open the lens 2 full stops to record a proper exposure.

these relationships by looking at how we obtained the images shown on page 67. We saw the individual components, but now let's show how they work together.

If your main light is valued at X and a fill light is set for 2 stops less light, that light will have a value of ¼X. The equation simply becomes X + ¼X = 1¼X, because you have added ¼ of whatever X is to the overall equation.

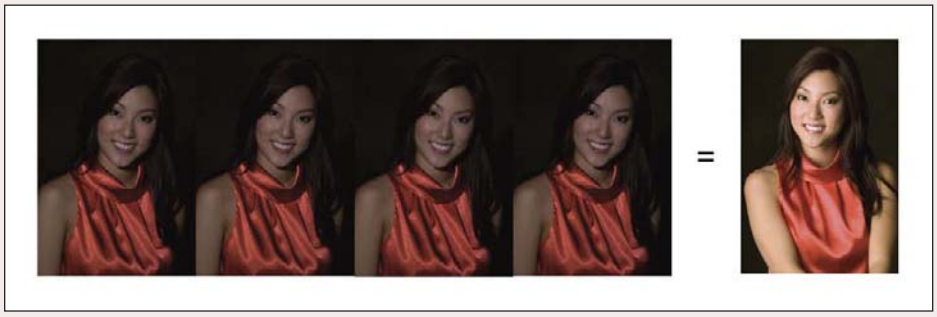
In the same way, if your main light is valued at X and a fill light is set for one stop less light, that light will have a value of ½X. The equation simply becomes X + ½X = 1½X because you have added ½ of whatever X is to the overall equation.

If your main light is valued at X and a fill light is set for the same exposure, that light will also have a value of X. The equation becomes X + X = 2X because you have added the same amount of light to the overall equation.

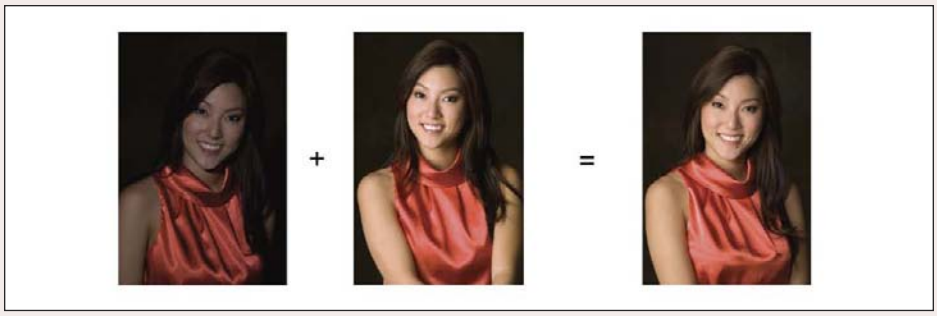
Plug in any f-stop values that you need to; the algebra is the same. For example, if X were set for f/4 and you

wanted a ½ stop fill, then you would set your fill light at f/2.8 for a final exposure of f/4 and ½.

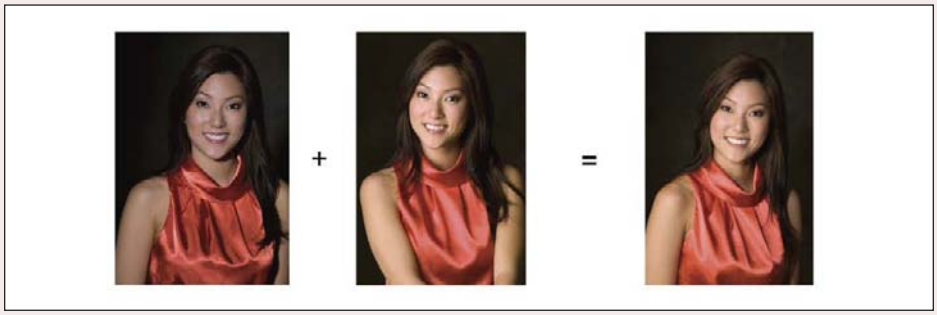
The additive nature of light is one of those laws that will take a while to sink in. It is, however, one aspect of photography that you'll need to work on because it will help you to understand lighting ratios better and recognize when you are leaving the current capture range of digital photography. Let's look at lighting ratios.



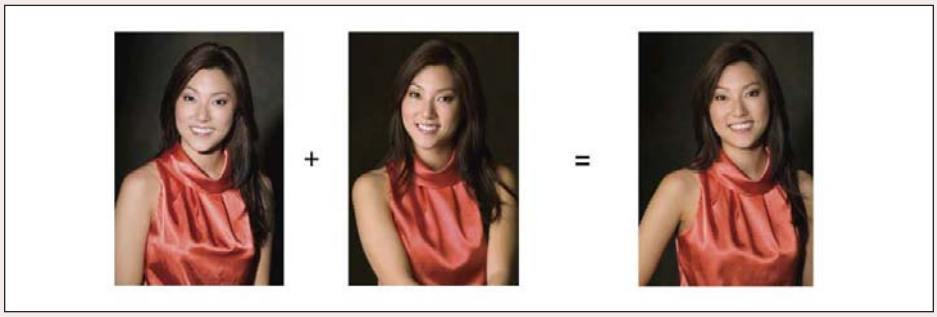
Four exposures at f/5.6 are needed to match the quantity of light at f/11.



The main softbox was set at f/11. In this case, the spotlight was set at f/5.6, which is 2 stops less than f/11. The fill light is ¼ as powerful as the main light and it adds ¼ of a stop to the overall exposure.



The main softbox was set at f/11. Now, however, the spotlight was set at f/8—one stop less than f/11. The fill light is ½ as powerful as the main light and it adds ½ of a stop to the overall exposure.



In this example, the main softbox was set at f/11. The spotlight was also set at f/11. The fill light is just as powerful as the main light, and it adds a full stop to the overall exposure.

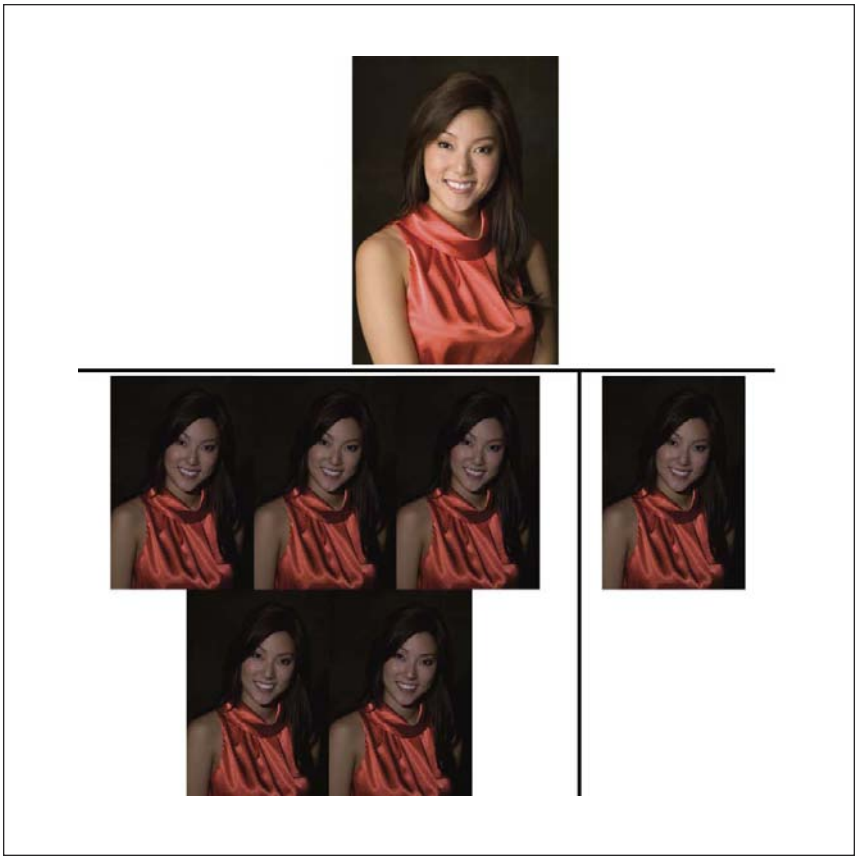
Light Ratios

Lighting ratios were described as a way to talk about the relationship between the amount of light illuminating your highlights compared to your shadows. Let's take another look at the images just presented; this time, however, we'll break them down from the fill light position. Once again, we are looking at it from the point of view of how much light is recorded by various light sources with the camera set at f/11.

We will determine the lighting ratios by assigning a value of one to the fill light. To determine lighting ratios, the shadow side theoretically does not receive any light from the main light (however, we have seen numerous times that there will be some spill of light over to the shadow side depending on the placement of the main light). The light from the fill provides one unit of light to the shadow side. It also provides one unit of light to the highlight side. The main light adds illumination to the highlight side as well. The ratio is determined by the amount of light provided by the main light compared to the fill light. Let's take another look at the final images of Lindsay and figure out the lighting ratios for each photo.

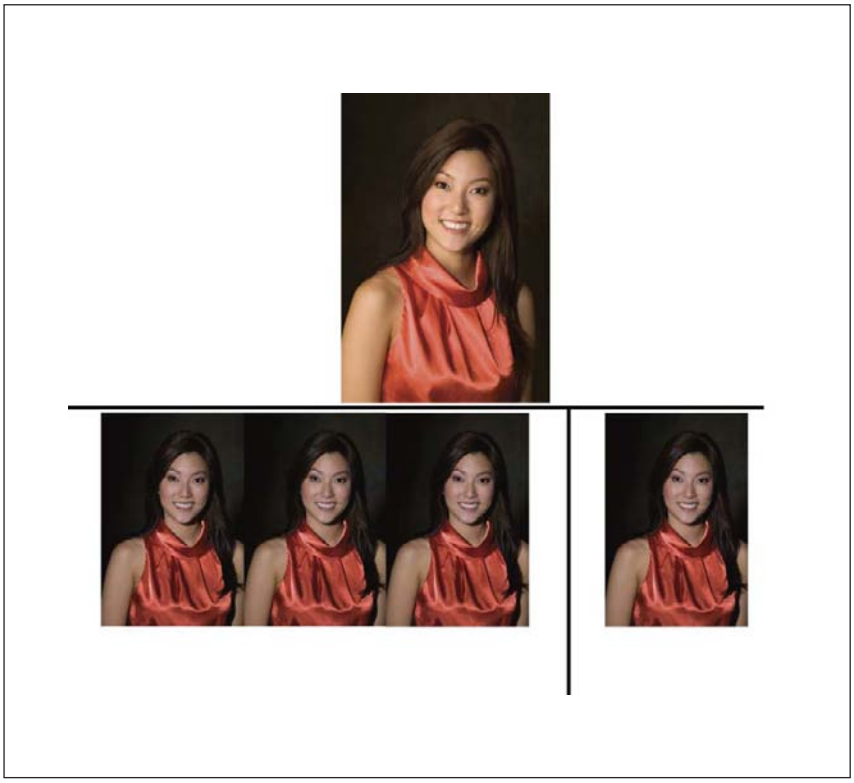
The ratio is determined by the amount of light provided by the main light compared to the fill light.

Tip: Your trusted light meter will save you the headache of doing all the math! Take a meter reading as shown on page 19 with the main light on, then make the desired changes in exposure. Turn that light off, turn

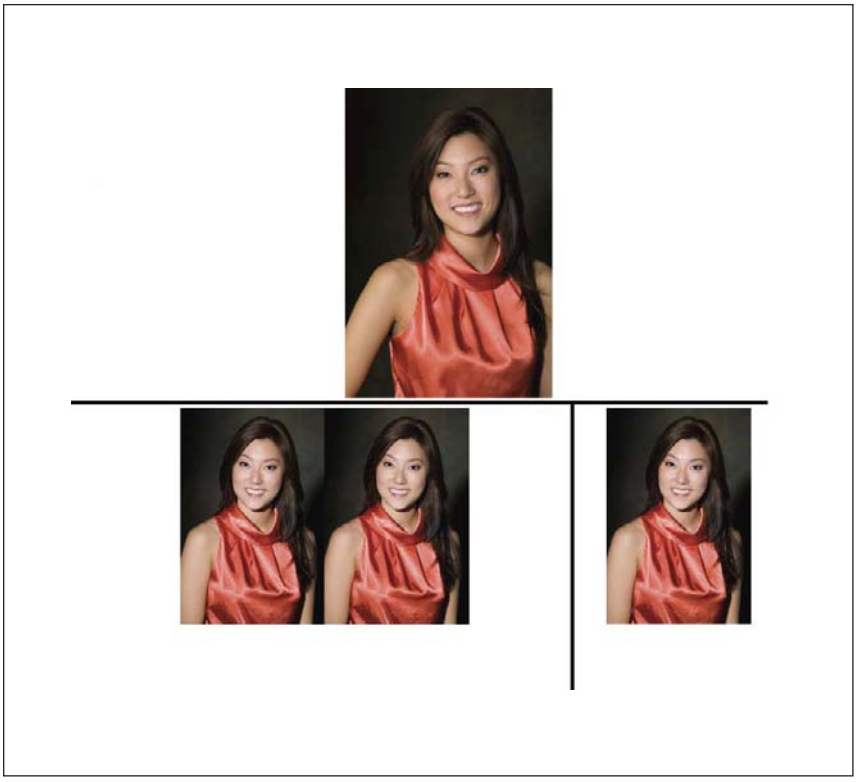


The fill light is now 1/4 as strong as the main light but still receives a unit value of one. The main light is four times as powerful as the fill, so it takes four of the fill values to have the same intensity. The fill provides one unit to the shadow side and the highlight side, while the main provides four units to the highlight side and none to the shadows. The highlight side receives four units from the main and one from the fill for a total of five units. The shadow side gets one unit from the fill and theoretically none from the main for a total of one unit. The result is a 5:1 ratio—which is about the extreme limit for the current state of digital capture. You won't record much more meaningful information beyond a 5:1 ratio right now. Of course, with the rapid changes in digital technology, you might be able to get a meaningful 6 or 7:1 by the time this book is printed. The math is the same no matter what the desired ratio.

your fill light on, and take a meter reading the same way. Make the desired changes in exposure. Turn both lights on and take a final meter reading the same way. Do the same thing for any other lights you have that overlap.



Now the fill light is half as strong as the main light but still receives a unit value of one. The main light is twice as powerful as the fill, so it takes two of the fill values to have the same intensity. The fill provides one unit to the shadow side and the highlight side, and the main provides two units to the highlight side and theoretically none to the shadows. The highlight side receives two units from the main and one from the fill for a total of three units. The shadow side gets one unit from the fill and none from the main for a total of one unit. The result is the hugely popular 3:1 light ratio.

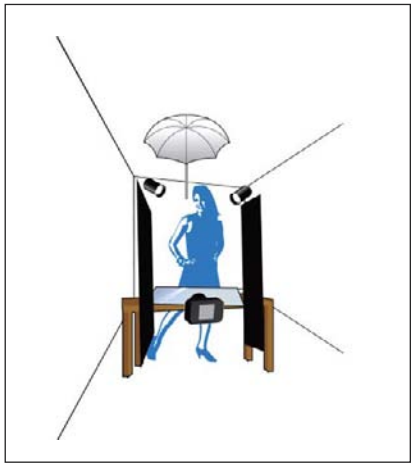


The fill light and the main are both providing a value of f/8, so each receives an equivalent unit value of one. The fill light provides one unit of light to the shadows and highlights, and the main light provides one unit to the highlight side. One unit plus one unit on the highlight side equals two units on that side. The shadow side receives one unit from the fill and theoretically none from the main light for one unit on that side. The ratio is two units of light on the highlight side to one unit on the shadow side for a 2:1 ratio.

I really like to include accent lights in my images. You need to be extra careful when your accent lights illuminate skin that is also lit by your main/fill lights because you can easily lose detail in the highlights that you created. The highlights on Jen's face in this image were within the limits of digital capture, but I admit that I have had to use Photoshop to paint in some color when small highlights were blown out by a model moving closer to the lights—or lighting fanatic. (Think: "Hey, let's try . . . uh oh!")

Adding Accent Lights

Adding hair, rim, and/or background lights is nowhere near as daunting a task as adding overlapping lights. However, great care must be taken when these lights do mingle with main/fill lights because you will quickly find yourself at the end of the capture range of digital photography and wind up with a blown-out highlight. I take great care to keep all of my highlights from rim/hair lights within one stop of my working aperture, but sometimes I still get a blown-out spot—perhaps the model may have moved a little closer to the lights and we were already flirting with that fine line—this is where your clipped highlight feature on your camera's preview screen comes in handy. Check those highlights often if you are unsure.



I meter additional lights in the studio in relation to the exposure set by my main/fill lights.

You do need to decide how bright you want these accent lights to be. I do that by using my main/fill light combination and working aperture as the baseline. I meter any and all additional lights in the studio in relation to the exposure set by my main/fill lights. Remember that the exposure set by the main/fill combination is the basis for what will be the neutral values. Highlights will be created by adding light to areas that are not lit—or are lit less—by the main/fill combination. I will generally set my rim/hair lights to be equal to or a bit brighter than the neutral exposure set by the main/fill. The size of my hair/rim lights will have an impact on how the accent looks, as well as how I want to expose them.

The issues related to quality of light that were discussed in chapter 3 are pertinent to hair and rim lights too. Smaller hair/rim lights will have a tighter and brighter highlight than larger sources.

Let's take a look at the three headshots and captions on page 78.

Top row—(left) We started with a spotlight with a grid to accent Lindsay's hair. Notice the tight specular highlight in the middle of her hair. The hair light is a small light source, so it provides more contrast. I set the exposure to equal the main/fill light exposure. (center) We replaced the spotlight with a small Stripdome for this image. The highlight on Lindsay's hair is broader and more evenly spread out. I bumped up the exposure of the hair light by about $^{4}/_{10}$ of a stop to compensate for the lowered contrast of the Stripdome. (right) Finally, we changed the small Stripdome to a medium Stripdome for the hair light. Once again, the highlight is broader than in the image made with the smaller softbox. I bumped up the exposure by a couple of tenths of a stop for the larger light source. ***Above***—Two accent lights make a huge difference in these photographs of Jenie. The image on the left is quite dull compared to the glamour look of the image on the right. You can tell that the hair light on Jenie's right was created by a spotlight because of the bright specular highlight. The even highlight along her left side was created by a small Stripdome.

Hair and rim lights are very important additions to your images. Not only do they separate and lift your subject from the background, they also add visual interest, leading the portrait viewer's gaze through the photograph. The bottom pair of images show how a hair light and a rim light turned a simple swimsuit shot into a glamour photograph.

Top row—(left) We start with a relatively dark backdrop of mottled greens and browns. The first option is to not light the backdrop. There is a slight spill from the hair light that keeps this backdrop from going completely black, but we could have flagged off the backlight if we wanted to. (center) The addition of a background light created a whole new look. This time we metered the background light to match the main/fill exposure of f/11. The background looks a bit light for that reading, but that's what the meter said! I prefer my darker backdrops to be darker. (right) No, I didn't buy a new muslin sheet for this shot—we just taped an aqua gel over the background light. ***Bottom row***—(left) Here is the setup with a green gel over the background light. (center) This time we placed a red gel over the background light. (right) We liked the red backdrop best and shot the rest of the series with that gel.

Lighting Backgrounds

One of the most overlooked yet critical components of building your set in the studio is the background. It is also one that can be surprisingly costly. Seamless paper backdrops are great for many purposes, but the price of replacing them consistently can be steep. Muslin backdrops obviously have a much longer lifespan than paper, but they too can be costly. Here is a very inexpensive way to create many backdrops from one:

Expanding Your Options with Gels. We have spent a lot of time looking at the effect of changing the relative exposure of the different lights on your set. You can create a variety of backdrops simply by adding a background light and modifying its output.

Suppose you go out and buy a darker muslin backdrop and play with various lights, exposures, grids, etc., but still find something missing? You might be looking for some color. Now, before you rush out for a new seamless or muslin backdrop, remember that we started with a dark backdrop. Dark backdrops will absorb color beautifully when we throw color on them. Pick up a sample set of gels (we used Roscoe gels for this series)

and you'll have as many backdrops as you have gels in the pack! Simply tape a gel over your background light, re-meter, make the necessary power adjustments, and you will have a whole new playground.

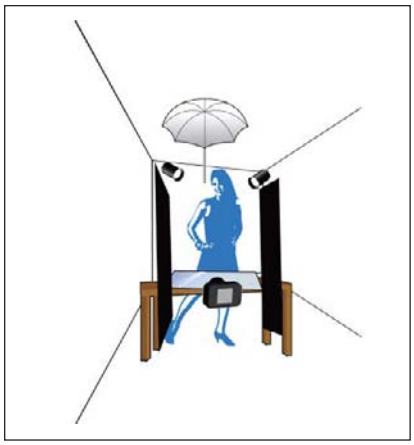
You don't need to break the bank in order to have many different backdrops—just use a little imagination and creativity. Try using several gels for overlapping and changing colors. Note that you can do the same thing with lighter backdrops, but the colors will be muted and fade faster, creating even more effects.

Maximizing A Starter Studio Kit

We've talked about different light sources for main lights as well as for hair and rim lights. We've also discussed reflectors and flags. Variations of the components will provide some subtle differences in the final image.

One of my favorite setups is my version of a beauty headshot. You have seen it several times so far, but with some slight variations in technique.

This image shows the effect of my classic beauty lighting: the front lighting is soft and beautiful, and Ashley's hair is engulfed in soft light as well. The setup for this image was similar to the one shown in the diagram on page 32, except that we replaced the silver cards alongside the model with black cards to achieve this effect.



A simple start-up strobe kit is all you need to create spectacular beauty headshots. The gear needed to create this lovely image of Brandy consisted of three strobes, an umbrella, black flags, and a silver card. Highlights in Brandy's hair and the illusion of a spotlight were added using the Photoshop techniques detailed in chapter 7.

We'll examine some of the differences and a way to create this shot with a starter studio kit. My classic beauty lighting uses a 30x40-inch softbox fitted with a Circlemask (a gobo with a large circular opening). The shadows are filled by placing a silver card at chest level and angled up. Black flags are placed on either side of my model. The flags are used to shield the light from the hair lights, but they also act as subtractive fill sources, essentially reducing the light to add shadows and contour to the model's face. The image of Ashley (facing page) shows the soft effect of this setup.

I decided to change it up a little for those of you with a starter studio kit. Many starter kits include a few strobe heads and an umbrella. The stunning image of Brandy (above) was created using just that combination. 30 degree grids were placed on two of the strobes and used as hair lights. The umbrella is a somewhat harsher light source than the softbox, so the

Above—We swapped the black flags for large silver cards for this variation of my beauty lighting. Notice that the softbox is fit with what Photoflex calls a Circlemask (other companies may have similar accessories). The Circlemask produces a round catchlight, which I think has a more natural feel for these kinds of photographs. ***Facing page***—Here we see the result of incorporating the silver box in the setup for the image of model and makeup artist Teresa Bringas. A Halo was used in place of the softbox for the photograph of Samantha Chung on page 43. Use your imagination for more variations!

effect of this lighting scheme will be even more dramatic than when a softbox is the main light. (*Note:* I utilized Photoshop techniques described in chapter 7 to fine-tune this particular image.)

6. Working Outdoors

Working with Strobes Outdoors

We saw an example on page 46 of how nasty the sun can be as a photographic light source, but what can we do about it? Most of you have probably heard the suggestions: "Find open shade (or create your own open shade)" and perhaps "Use a reflector to bounce some more light into the shade." These ideas are truly wonderful *if* the light illuminating the background is also in shade or in very similar light. The image of Teresa Bringas below illustrates this point. Honolulu and Diamondhead were lit by the

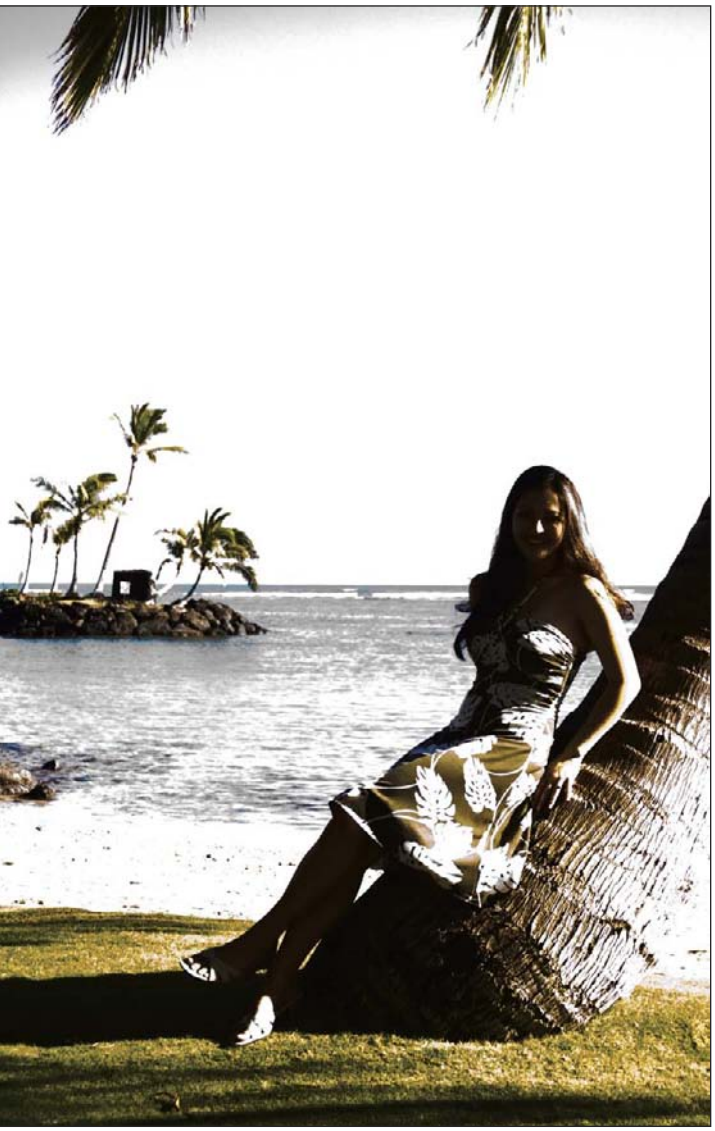
Reflectors are great to use outdoors when the light behind your model is similar to that which is illuminating her. The reflector can then do its job of filling shadows and, as in this image of the lovely Teresa Bringas, add some direction to the light.

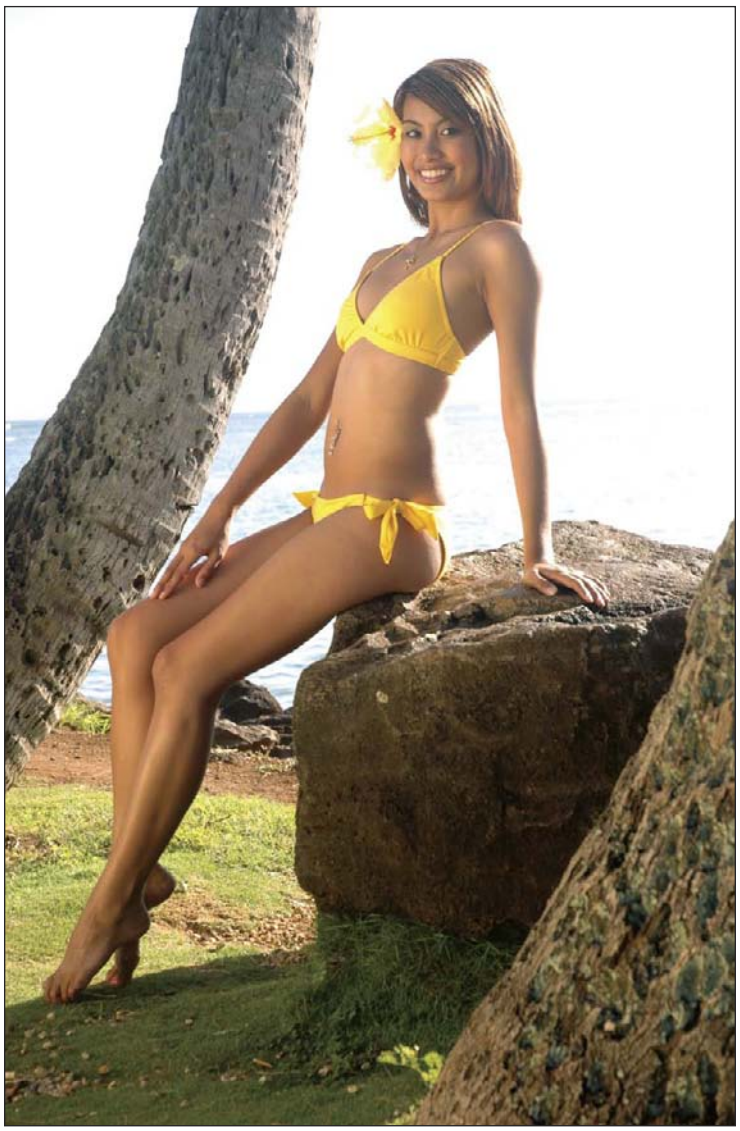
The image of Teresa across from downtown Honolulu (left) is the only one of the three that is marginally usable. The difference between the background exposure and the exposure under the shade is too great and simply cannot be recorded by today's digital cameras. In the cases of the images of Marisa and Jill, the backlight is creating a lot of flare. (Flare occurs when there is more light entering the lens from a source behind your subject than your chosen f-stop can handle.) The exposures were as follows: Teresa—$^1/_{500}$ at f/4.5; Marisa—$^1/_{30}$ at f/5.6; Jill—$^1/_{125}$ at f/4.2.

same bright sunlight behind her, so the use of a reflector bounced enough light back onto her to fill some harsh shadows and create a beautiful location portrait.

The situation is dramatically different when the background is brighter than the light in the shade. You may have wondered what the point was behind the exposure lesson on page 15, where we examined the tight exposure latitude of digital capture. Remember that we began to see a loss of information at ⅓ of a stop over the proper exposure, and a lot of information was lost at one stop over. Well, the difference between the exposure in the shade and the bright sunlight in Hawaii (and anywhere else where the sun is relentless) can be more than 3 stops. We will examine three common scenarios and will show that you are in no-man's land in each case. We'll look at placing our model under a tree, under a pavilion, and under a self-imposed source of shade—your trusty scrim.

The natural tendency would be to meter for the light in the shade—that is, after all, where your model is positioned. In the image above, we have an image of Teresa positioned under a scrim, Marisa under a pavilion, and





Jill under a tree. Each image was metered under the shade with the dome aimed at the camera, and each time the results were awful.

You might say, "Well, you shot the images in RAW, right? Can't you adjust the exposure in the RAW conversion process?" Shooting RAW can and will save you in many situations. However, there is no turning back once you hit RGB values of 255–255–255. You cannot create information that is not there. I tried to salvage the image of Jill (for demonstration purposes only) by processing it 4 stops underexposed in Adobe Camera Raw. The result is even worse.

So, all we need to do is add a reflector, right? Unfortunately, a reflector won't help you much in these extreme (and very common) situations, either.

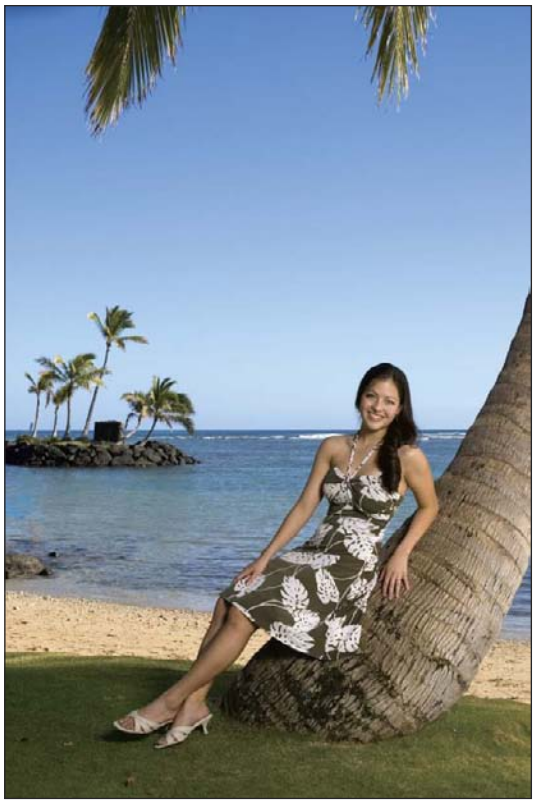
Now suppose we expose for the background in these extreme situations. Exposing for the background will solve that part of the problem—you'll

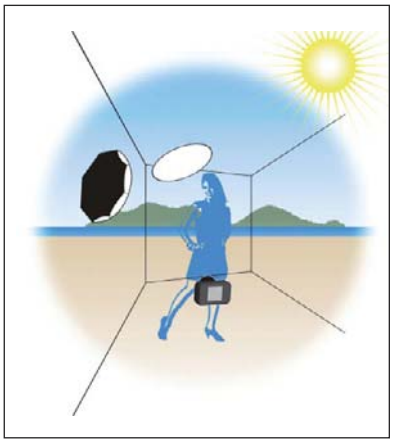
Left—I attempted to bring back some detail in the background by moving the exposure slider in the Camera Raw processor down to 4 stops underexposed. The backdrop is still a blazing white because there was no information captured and therefore no information to salvage. ***Right***—The same 77x77-inch gold reflector that was used to create the image of Kathryn on page 61 is almost useless in salvaging this image of Ruthchelle. The difference between the exposure under the tree with the reflector and that of the background is still too great to record any detail in the background. The exposure was $^{1}/_{250}$ at f/5.6.

get a beautifully exposed background *and* a silhouette for your subject. Take a look at these samples from the same series of images.

The question clearly becomes how to balance the two disparate exposures. I've tried to keep this book fairly friendly to those of you who are starting out and don't have a lot of gear, but there are several things that you will need in order to solve this problem. I've talked throughout this volume about the need for a good light meter rather than relying on the LCD screen on your camera. This becomes much more critical outdoors because the odds are that you won't see your screen outdoors. Your meter will have to be able to read the ambient light and light from your strobe in combination because it is time to bring your strobes outdoors! From that last sentence, you can guess that you'll need a strobe to bring with you on location. Now, I know a number of very good photographers who have a great deal of success shooting on location with what could be an on-camera flash system (however, these flash units are usually used off camera). I'm not one of those photographers. I want power and I want options. I bring at least one of my studio strobes and whichever light modifier I want when I am working on location. This means that I need to bring a

Once again, the only remotely passable image in the trio is the one of Teresa. Though the light on Teresa is flat and boring, at least you can see that there is a pretty lady there. Marisa and Jill are beautiful ladies as well, but they are so underexposed that you cannot tell. The backgrounds in each of these shots are spectacular—welcome to Hawaii! The exposures were: Teresa—$^1/_{250}$ at f/16; Marisa—$^1/_{250}$ at f/9; and Jill—$^1/_{500}$ at f/9.





The addition of a powerful studio strobe allows me to bring the light modifier I want and still obtain the exposure I need to balance the foreground and background exposures. The diagram shows the general setup for the three images. The modifier for the images of Teresa and Jill (left and right, respectively) was a Halo. I used a beauty dish to create the image of Marisa (center). The shade for the photograph of Teresa was created by the scrim depicted in the diagram. The shade for the image of Jill was from a tree, and a pavilion blocked the direct sunlight in the picture of Marisa. The exposures for the images were: Teresa—$^1/_{500}$ at f/8; Marisa—$^1/_{500}$ at f/11; and Jill—$^1/_{500}$ at f/6.3.

power supply. I have used a Lumedyne battery system to power one of my older Dynalite Uni400 monoheads for years. I recently upgraded to a Dynalite XP1000 battery converter for the increased power and faster strobe recycle times.

There is something else that you will need in order to effectively use a strobe system outdoors—and this one might hurt. Do you remember the old "Sunny 16" rule? It stated that the exposure of a bright sunny day was f/16 at the inverse of your ISO. So, if you were shooting at ISO 100, then your good guess exposure on a bright sunny day would be f/16 at $^1/_{125}$ second. Believe it or not, this system usually works fairly well, but I am not going to photograph any young lady at f/16—that's way too sharp—f/11 is usually my limit. You'd also need a very powerful strobe to get f/16 with any of the usual light modifiers. If you have f/16 at $^1/_{125}$ second, then the equivalent exposure is f/11 at $^1/_{250}$ second. Your camera is going to need to have a flash sync of $^1/_{250}$ second or faster.

I've been asked a lot of questions about how to use strobes outdoors. One of the more recent questions focused on a critical aspect of successfully using strobes on location. The simple yet profound question was something like, "How do you meter for the strobe when outdoors?" We've established the fact that your meter needs to be able to record ambient and strobes at the same time. The question triggered a different thought process for me. The process of how I meter a scene that will include a strobe is just as, or more important than, knowing how to set the meter.

Combining strobes with ambient light was a very difficult process to learn—until I shifted my thinking about how I went about metering the scene. My process of metering in the studio was well established: I'd set the exposure for the main and fill sources first and then decide the values of any and all accent/hair/background lights relative to my main/fill exposure. My shutter speed generally did not factor into the exposure as long as I set it to a reasonably fast setting.

When working outdoors, I cannot change the backlight like I can in the studio. I can, however, change the light illuminating my model by adding a strobe. I can find out what the background exposure is by taking a meter reading anywhere in the scene where the light is the same as in the background (the meter is generally pointed toward the camera position,

The spotty clouds did not ruin this image of LeGran and Jacquie because the strobe, tucked into a Halo, became the main light. Now the clouds can be used as part of the composition. The exposure was $^{1}/_{500}$ at f/9.

Facing page—I positioned the strobe as close to the axis of the sun as possible to create natural-looking highlight and shadow patterns. The critical point is the need to meter the scene each time you move your strobe. I admit that I got a little lazy this time and "guesstimated" the exposure based on where the light was in the previous setup. The final image worked beautifully but required a little extra work in Photoshop. Lesson learned: get it right in the camera. LeGran and Jacquie did a great job of posing as resort vacationers! ***Right***—We saw the attempt to use a reflector to balance the shade with the bright sun in this scene with Ruthchelle earlier. Here is one of the final images with the addition of a strobe in a Halo. The highlights that the sun provided were used as the basis for the final exposure so we did not blow out the detail. The final exposure was $^{1}/_{250}$ at f/13.

but we'll discuss an exception to this below). I know that my strobe will not have any impact on the background because of the inverse square law (the light from my strobes will disperse rapidly once it gets beyond my subject). I can now set my strobe/ambient to create the balance I want by adjusting the shutter speed: I set my strobe/ambient exposure to be even with the background or greater than the background. I can darken the setting behind her by shooting at a faster shutter speed (up to my sync speed), or I can set it to be slightly less than the background to create a more pastel colored scene. I am not as concerned with the lighting ratio because the strobe is definitely the main light.

I try to angle the light to create shadows and depth, but I want to position the strobe so the direction of the light would look natural. My meter can read strobe plus ambient, so I simply place the dome of the incident meter at the subject's cheek, aimed at the camera, and fire the strobe. I compare the reading to that of the background, make any adjustments,

and start shooting! Check the manual for your meter to determine the proper mode and specific metering steps required to read strobe light plus ambient light.

One thing to note is when the direct sun adds a potentially bright accent light. In this case, the sun is acting as a non-front light and is metered with the dome aimed at the sun. This exposure now becomes my base to go on because highlights blow out so quickly. I have to make sure that my strobe/ambient combination is less than one stop under the highlight exposure. The bright background will be beautiful using this method too.

Let's tie all of the components of outdoor lighting that we have discussed together to create a beautiful location teen portrait. We are going to use a scrim to soften the overhead sunlight and a strobe in a Halo to bal-

Left—Creating portraits outdoors does not need to be a complicated ordeal. We used the principles and techniques described in this book to create this engaging portrait of Tasha. Marshall held a scrim to diffuse the harsh sunlight but allowed the sunlight to spill onto Tasha's hair. A Dynalite Uni400 strobe was placed in a Halo and was used as the main light. We lightened the backdrop slightly and added highlights to Tasha's hair in post-production. ***Facing page***—The sun was still adding some highlights in the hair on Tasha's left side. We added a reflector to her right to pick up some highlights in her hair on the opposite side.

ance the light as was just described. However, this time we will let the direct sun pass the scrim to produce a harsher hair light. We'll add a reflector to create more highlights in the second photograph of Tasha.

Teenagers are great fun to work with! Every aspect of their being is in a state of complex change. The ability to grab a moment in the transformation from childhood to adulthood is a special gift, and I love capturing this critical phase of development for posterity.

Now, that doesn't mean that it will be an easy task! Today's teenagers seem more sophisticated than I was all those years ago. I try to work with my teenage models to create a portrait with some sense of fashion and flair. It makes it easier to accomplish this goal when your subject is a beautiful, young, aspiring fashion model.

Tasha was photographed in a gorgeous little park in Waikiki. Now, I know what most of you are thinking: how could you miss with a pretty girl in paradise? Trust me—I learned the hard way that it is actually quite difficult to create those iconic images that we associate with Hawaii. The South Shore of Oahu is usually more consistent, but we were plagued by a constantly changing cloud cover and sunlight that speckled though the trees in the park. By now you know that a powerful studio strobe and a well-used (a nice way of saying "beat up") Halo are my constant companions on all location shoots. We also used a scrim to create this image.

In the images just shown, the scrim and Halo combined to create a realistically soft light that still had some punch to it. Creating the image of Marie in the pool (facing page) was quite a different story. We literally hiked for two hours to find the pool—Glenn and Marshall carried the load of gear across slippery, moss-coated rocks, fallen tree limbs, and bamboo thickets. I managed to keep two feet (and two canes) on the ever narrowing trail while Marie took care of the insect repellent duties! Time was not on our side as we faced the realities of a longer than anticipated hike back to the car. We literally had about fifteen minutes to shoot and get out of there before finding ourselves in the jungle at night!

The following image was shot at f/8 at 1/15 second and was a fairly bad shot right out of the camera. Marie is beautifully exposed, but we've lost the beautiful tropical pool. Marshall asked if I could have gotten more detail in the backdrop by either slowing the shutter speed considerably and/or dropping the power of the strobe to shoot at a wider aperture. The answer to both parts of this question is yes, but each adjustment would come at a cost. I was not about to risk what turned out to be a three-and-a-half-hour hike to motion blur from a very slow shutter speed.

The issue of the aperture had two components: the first was aesthetic and the second was practical. We wanted a very dramatic look, which dictated a harsh main light effect. The strobe was fitted with a 40 degree grid

Facing page, top—The image straight from the camera looks like it was a long hike for nothing. Sure, Marie is beautiful and the lighting on her is what I wanted, but the background—or lack thereof—is less than impressive. ***Facing page, bottom***—Now we have a beautiful lady in an exotic location! Later versions of Adobe Camera RAW allow us to process JPEG files like RAW files. There is a solution available for JPEG shooters with older versions of Photoshop as well: Open the image as shot and make a duplicate layer. Change the blending mode of the new layer to Screen and add a layer mask set to Hide All. Use the Brush tool to paint in the backdrop as desired. This method works, but you have more control with the RAW processor. (*Note*: Additional strategies for using Curves to tweak and perfect your images are covered in the next chapter.)

Facing page—All of the elements and lighting tools that we have been discussing fell into place for this beautiful environmental portrait of Jaime. She was positioned at the edge of a pavillion so the harsh overhead sunlight wouldn't be a factor, but we would get some soft fill light from the surrrounding area. A 77x77-inch gold reflector was placed on the ground in the direct sunlight to add some warmth to the image and give the illusion that the photograph was taken using late-afternoon sunlight for the main source of illumination. A strobe in a beauty dish was used as the main light and to balance the exposure to the background. ***Above***—Environmental portraits show your subjects in settings that are meaningful to them. You can show more of the subject's personality and interests by photographing them in an environment that is natural to them. The hula has been a very meaningful dance to Raeceen Woolford, and she seems at peace with the movements as she tells her story.

and was set at about three stops brighter than the ambient light. The strobe is a much smaller light source than the broad, flat shade. The increased contrast of the small light overshadows the soft light. We would have lost some of the impact of the strobe if we had balanced the ambient light to the strobe. From a practical point of view, I did not want to shoot wide open because I wanted to carry enough depth of field to keep Marie and most of her surroundings in focus—after all, we weren't about to hike back for a reshoot!

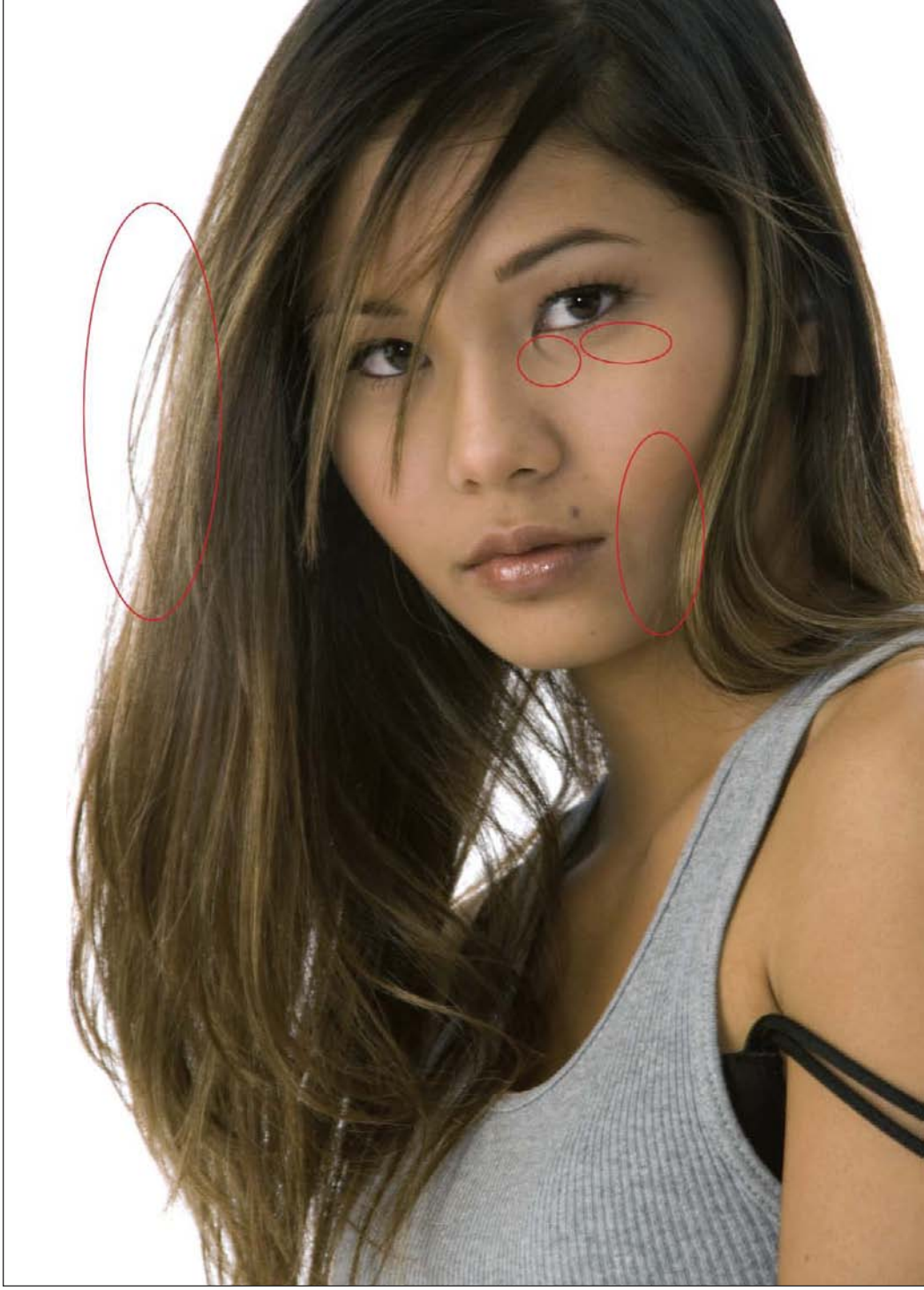
The key was in knowing what additional tools I had to rely on. It is true that digital photography has a very narrow acceptable exposure range. We have about 2 to 2½ stops above and below the metered exposure before completely losing details. Our first task was to make sure that the exposure on Marie was accurate. A handheld incident light meter set to read the ambient plus strobe did the trick. The rest of the scene is important, but nowhere near as critical as her skin tones. I played with a Curves adjustment layer (as always!) and once again processed the image twice in the RAW conversion. See chapter 7 for the details on how this was done on another image.

4. Postproduction Enhancements

Basic Retouching

I do some retouching on every portrait, fashion, or glamour image that leaves my studio. Some images, like this photograph of Brooklyn, require very little work, while others need significant postproduction retouching.

Our model has beautiful skin, which does not require any retouching. There are other aspects of the image that could use a little tweaking, though.



We'll use Photoshop to finesse the eye area and remove stray hairs.

The original image of Brooke (facing page) could very easily pass as is. She has beautiful, flawless skin, so we'll focus on retouching other aspects of the image. (*Note:* A color correction Curves adjustment layer was used to neutralize color shifts. The next sequence of images will show you how to color correct your images.)

I have marked some areas of the photograph that could use a little retouching. I've circled some stray hairs, a slight crease where her eye socket joins the bridge of her nose, the area under her eye, and some stray hairs on her cheek.

There are a wide variety of Photoshop tools and filters to choose from when retouching your photographs. In the paragraphs that follow, we'll touch on some of the very basic tools that I use on almost every image. (*Note:* Always do your retouching on a duplicate layer or keep your untouched original in case you need to revert back to the original version.)

The Brushes. The Brush tool can be used to tone down hot spots. The Clone Stamp and Healing Brush are my favorite retouching brushes. To use these tools, hold down the alt/opt key and click on an image area to create a sample with which to paint. (*Note:* When you have selected your tool, you will see an option bar at the top of the screen. Check the Align box if you want your sample point to follow the path of the brush as you paint over new target areas. Don't select the Align box if you want to paint using only the original sample point.) You then click and drag on the area that you wish to paint over.

The Clone Stamp takes an exact replica of the area selected and paints it over your target. There is no blending, just an exact copy. The Healing Brush, on the other hand, blends the selected area into the target section. When the Clone Stamp is active, you can set the opacity of the "paint" in the options bar. The Healing Brush does not offer that option, but you can diminish the effect by going to Edit>Fade.

The Approach. I usually start with the flyaway hairs. The Healing Brush isn't the best choice when working on areas of great contrast (like between the white backdrop and Brooke's hair), so I used the Clone Stamp to paint away stray hairs. I selected an area right next to the flyaway hair and chose a brush size just larger than the section to be painted over. I usually select Align to match the selection to the target, but with this white background, it didn't make a difference. I started by making gross motions over the most distant flyaways but carefully fine-tuned my strokes as I get closer to her head. I do my best to stroke in the direction that her hair is flowing to keep the "haircut" as natural looking as I can.

I switch to the Healing Brush to remove any blemishes that may appear on my model's skin. I prefer the Healing Brush to the Spot Healing Brush because I feel like I have more control over the results. Brooke didn't have any blemishes, so used the Healing Brush to paint away the faint hairs that crossed her cheek.

I typically use the Healing Brush to lighten the shadows that sometimes appear under the eyes. I make my selection from just under the shadow area and paint across the area that I want to lighten. There are many times when this simple action produces a result that goes too far and does not look realistic. I simply fade the result to about 60%, and the results usually look great. I also use the Healing Brush to even out repeated patterns that result when using the Clone Stamp to eliminate flyaway hairs.

Facing page—Here is the photograph of Brooke after some minor retouching using the Brush tool, Healing Brush, and Clone Stamp.

The Clone Stamp takes an exact replica of the area selected and paints it over your target.

Photoshop is much more powerful and has so many more options than just the Healing Brush and Clone Stamp tools, but you'll go a long way by getting to know these "basic" brushes.

Color Correction and Color Conversion

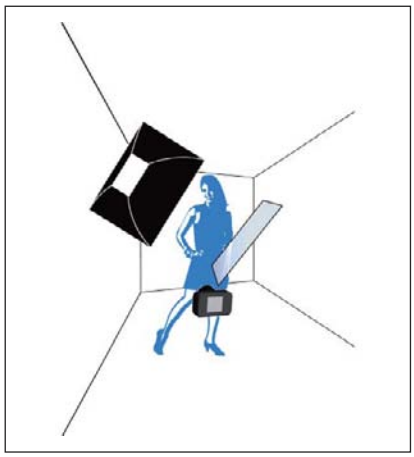
The first step in working with digital images is to do some color correction. There are many tools available for color correction in Photoshop. In my opinion, the Levels and Curves adjustments are the best. My main choice is the Curves adjustment because you can work with the color and luminosity of your image at the same time.

The techniques that I will show you in this chapter are a combination of color correction tricks that I learned from several Photoshop gurus, including Martin Evening, Eddie Tapp, and Dave Cross. I will assume that you are working on an accurately calibrated monitor.

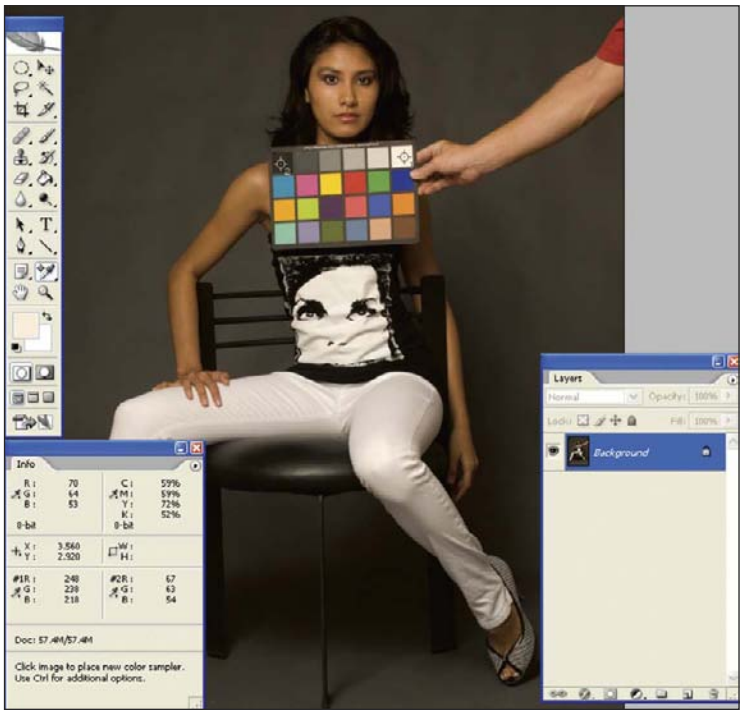
I try to remember to include a color card in one shot for each lighting setup I use. The Gretag Macbeth ColorChecker color rendition chart is a

TERMS TO KNOW

Color Correction. Color correction is the art and science of neutralizing color shifts and enhancing color in post-production. Most if not all digital images require some degree of color correction.



Left—This image of Vina was featured in chapter 2. We will now take a step-by-step look at how the original color image was color corrected and then converted to black and white. ***Right***—One light source coupled with a reflector was all we used to lay the foundation for this image of Vina Vanessa. The 30x40-inch softbox provides a nice wraparound effect while maintaining a good amount of contrast. The light was placed high enough to allow for sufficient falloff so her white pants would not lose detail.



Top left—The lighting for this image was created with one 30x40-inch softbox and a reflector. ***Top right***—Any card that has a white, black, and neutral gray section will work for simple color correction, but I like the Gretag Macbeth ColorChecker chart because it allows me to fine-tune my gray selection. ***Bottom***—This screen capture shows the beginning of my color correction process.

set of twenty-four color swatches that includes six gradations from white to black. I use the grayscale section as my guide in ensuring accurate color in the final image.

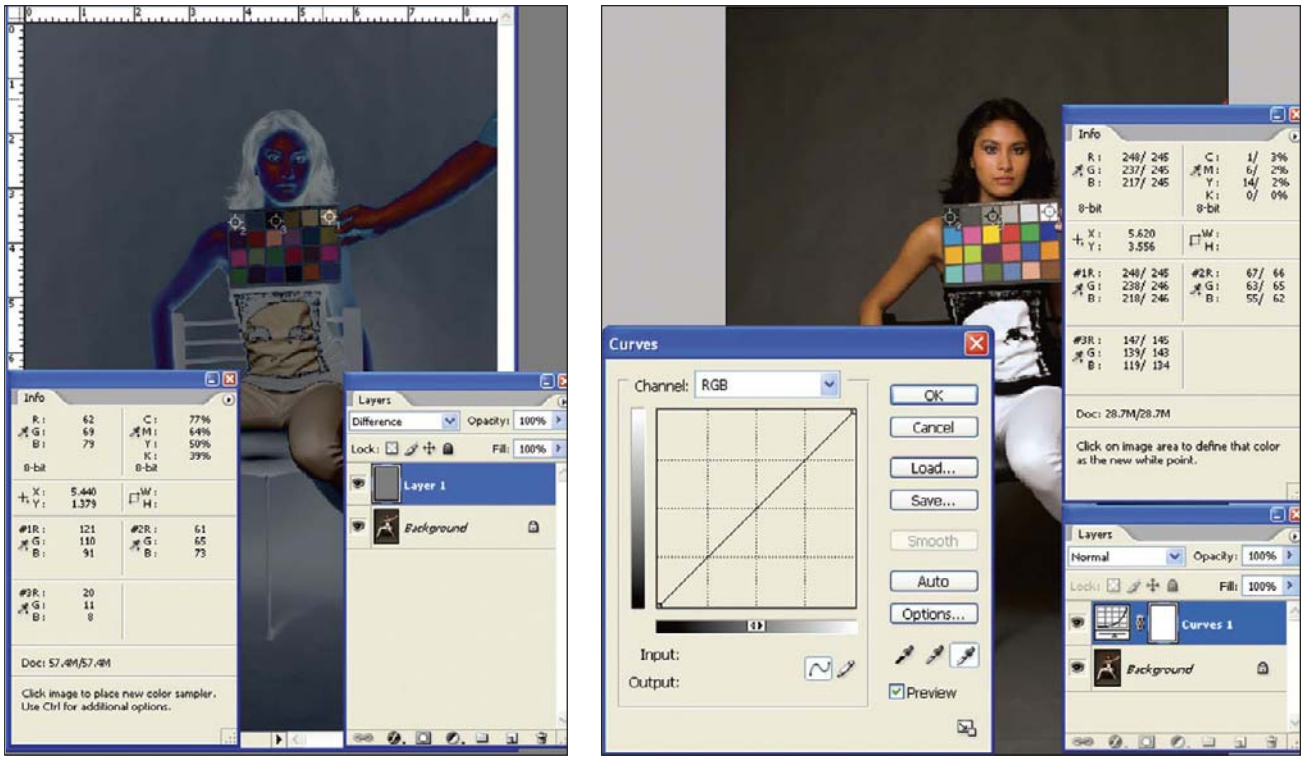
Notice that the Color Sampler is selected in the screen capture on the left. The tool will take a sampling of the colors at, or an average of a number of pixels around, the spot selected. I tend to use a 3x3 or 5x5 pixel selection range. The Color Sampler will provide you with a numeric breakdown of the different color values in that selection. We'll use these values to correct any color shift in the highlights, midtones, and shadow areas. Note that the Info palette has registered values for both the white and black swatch. I still need to set a gray point, but I don't know which of the four gray swatches best represent midtone gray. I make a duplicate layer and fill it with 50% gray (Shift/F5 and choose 50% gray), then change

the Blending Mode to Difference. The area of the image that comes closest to black in the Difference mode is the area that is closest to midtone gray. The screen shot on the left shows the result of these steps.

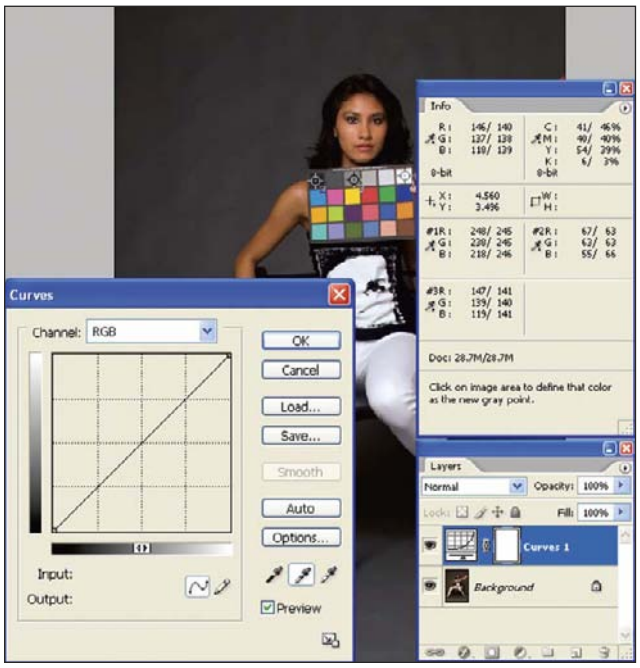
Now it is time to make the adjustments. Take a look at the Info palette in the screen shot on the right. You'll see two sets of numbers for each selected area. The first set shows the original color values. You can see that the numbers are out of alignment. The areas selected are supposed to be pure white, gray, or black. The odd number values represent the color shift that we are trying to neutralize.

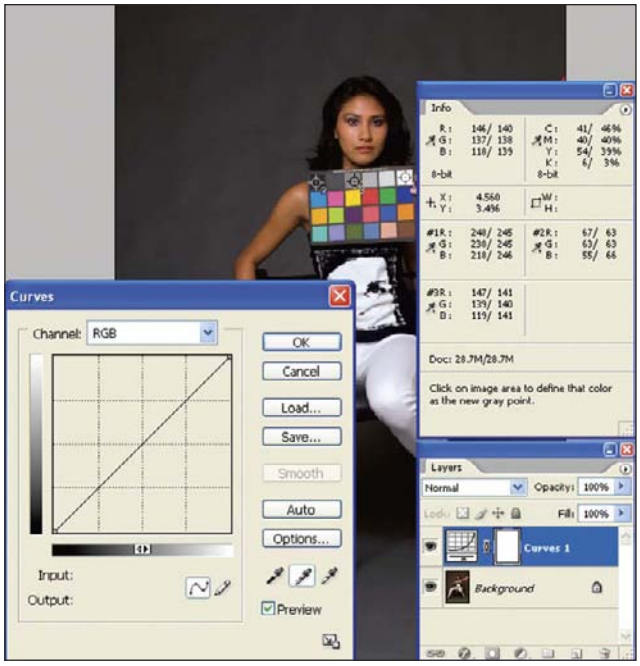
I used to then take the black eyedropper and click on the black square in the color chart to force the blacks into my preset range (10–10–10), but this often created too much contrast. I now choose the gray (midtone) eyedropper and click in the area defined as midtone gray. Notice that this adjustment brought the blacks pretty close to being in line—the values now read 63–63–66 for the black selection (top-left screen shot, page 105). I'd probably leave it alone, but I'll show you how to make subtle changes in the blue color channel to completely neutralize the shadows.

I selected the blue channel from the Channel drop-down menu in the Curves dialog box. I clicked on the lower-left corner and edged the



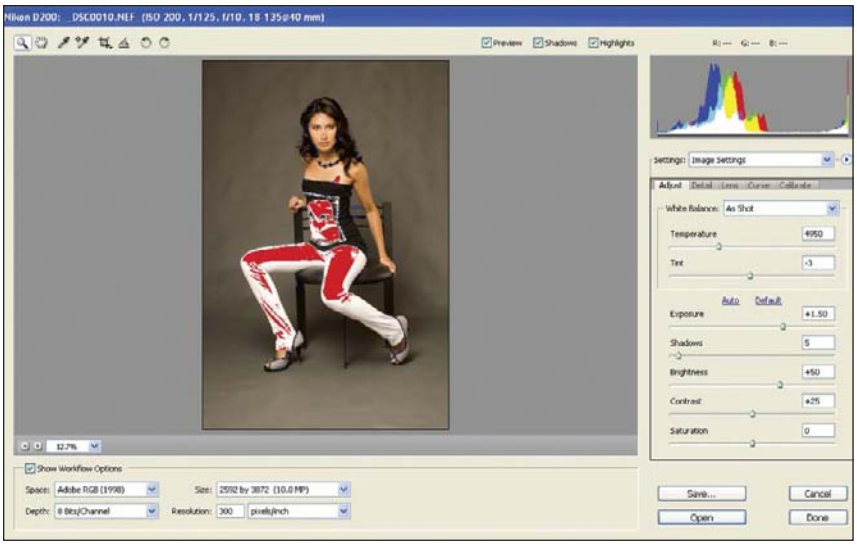
Left—You can delete the duplicate layer (labeled Layer 1 in the screen shot) after you use the Color Sampler to select your gray point. ***Right***—The Curves dialog box has three eyedroppers—one each for white, black, and gray. Double click on each one to preset your numeric values for the three tones. My whites are set for 245–245–245 and my blacks are set for 10–10–10. The grays are set for 128–128–128. I chose the white eyedropper and clicked within the white square to align my whites and remove any color cast from the highlights.





Top left—The midtone eyedropper brings the image pretty close to neutral. The blacks are slightly out of alignment. ***Bottom left***—Adjusting the blue channel fine-tunes the color rendition in the shadows. ***Right***—Here is the color corrected version of the portrait.

shadow point slightly until it also read 63 in the Info palette. I also made a very slight adjustment to the whites but left the gray tones as they were—just a hair out of balance. So, here I neutralized the whites by forcing the color values at that extreme to a preset white value and neutralized any color shift in the midtones, but I didn't force the blacks to go deeper than what was captured and therefore didn't create an unnatural contrast range. There is a Save button in the Curves dialog box (or a Save Preset option in the Curves drop-down menu in later versions of Photoshop; this is located just to the left of the OK button). I clicked the button, named the adjustment, and saved it to load later with other images from this series.



Top left and right—The Camera Raw interface provides many options for processing the image after it has been captured. Here I simply moved the exposure slider to the right until I had overexposed the image by 1.5 stops. I hit Open to reveal the modified photograph. ***Bottom***—I tend to start painting the overexposed layer in at 100% when I am adding highlights to the hair. You can always hit the X key to set the foreground color to black and paint the underlying layer back in if you overdo it. That's the beauty of using layer masks!

It is sometimes necessary to selectively lighten portions of an image. Here is a step-by-step tutorial on how to achieve the effect.

There are now two versions of the image open. The overexposed version was just opened, so it is "active." I selected the Move tool and, with the Shift key held down, dragged the overexposed file on top of the original image. I then went to Layer>Layer Mask>Hide All and alt/clicked on the Layer Mask icon at the bottom of the Layers palette. Note that a layer mask that is set to Hide All screens all the pixel information from the masked layer and allows all the data from the underlying layer to show through (the layer mask is black).

In the tools palette, I set the foreground color to white and the background color to black. I chose the Brush tool and painted in the overexposed layer at the desired opacity.

I lowered the opacity of the Brush tool to 10% and set the brush size so it just covered Vina's face and slowly lightened her face with a couple of brush strokes. A brush opacity of 10% allows me to carefully control the amount that I lighten her face. I can easily use the Undo function in the Edit drop-down menu or use the History palette to correct the image if I lighten her face too much.

Next, I chose the elliptical Marquee tool and selected an area around Vina's torso.

I hit ctrl/cmd + J to create a new layer from the selection just made. I ensured that the new layer was active and brought up the Curves dialog box by hitting ctrl/cmd + M. I pulled the center of the curve upward until I had the effect I wanted, then hit OK.

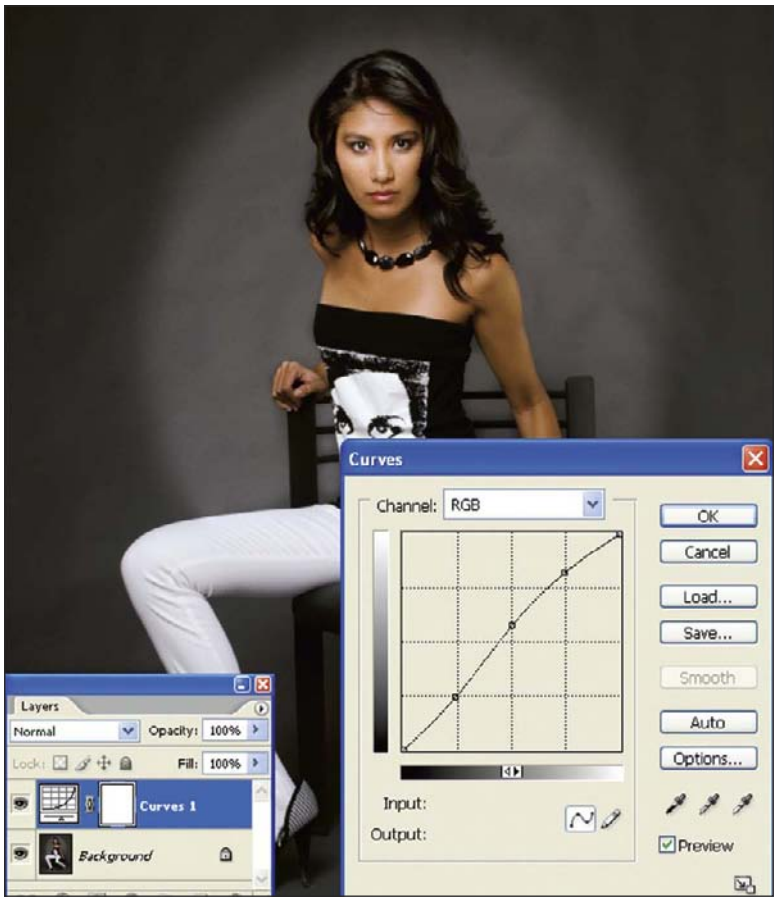
Left—Here is the image so far. Vina's face and hair now provide the illusion that a second front light—perhaps a spotlight—was used to add emphasis to that portion of the image. We'll add another "spotlight" now. ***Right***—I didn't want a sharp circle because a spotlight behind Vina would gradually fade out. To ensure that the illusion I wanted to create appeared realistic, I feathered the selection by 80 pixels. Feathering in this case refers to the amount that you want the effect to fade around the edges. A small pixel number will result in a sharply defined circle, while a larger setting will result in a softer transition. (*Note:* Though it is not shown here, once the Marquee tool is selected, the Options bar at the top of the screen will allow you to enter a Feather amount.)

Top left and right—The problem is that now Vina's face—and pants—are too bright. ***Bottom left***—The solution is simple: we can create a Reveal All layer mask and paint out the sections that we do not want to be affected by the Curves adjustment. Follow the steps outlined above to create a layer mask (this time, select Reveal All) and paint out the areas that are too light. Note that the screen capture includes the Info palette. We saw it earlier in this chapter. I've also been checking the values of the whites in Vina's pants each step of the way. ***Bottom right***—We simply added a Curves adjustment layer and loaded the color correction layer that we created in the steps outlined above.

The masked version of the "spotlight" brings the tonal values for Vina and her clothes back in line while maintaining the desired illusion of a backlight. However, this image, like the vast majority of digital images, needs some color correction.

The Curves adjustment layer worked almost too well: the image lacked the drama I was looking for. A second minor Curves adjustment was used to fix this.

The photograph is still not what we set out to create—the task was to create a dramatic black & white fashion image. There are several ways to convert a color image to black & white in Photoshop. A Channel Mixer adjustment layer affords you the most control over your conversion—and maintains the RGB profile as well. Later versions of Photoshop also have black & white adjustment layer options and the ability to convert the file within the Camera Raw interface.



Left—A minor Curves adjustment was made to slightly bump up the contrast in the image. ***Right***—We now have a dramatic fashion image created with one strobe—but we aren't finished yet!

Top left—The Channel Mixer is a terrific way to convert any color image to black & white. The key is to check the Monochrome box in the lower-left corner of the adjustment layer. Each channel slider can then be adjusted to create the optimal black & white conversion for each individual image. The settings noted in the screen capture (Red: +50; Green: +20; and Blue: +30) work best for me—so far! Martin Evening, author of *Photoshop CS2 for Photographers,* states that the values should add up to 100, or close to it. ***Top right***—I almost have the image I envisioned. I still wanted a little more contrast and emphasis on Vina's face. ***Bottom***—The ability to make extremely fine-tuned changes in your images is the beauty of using multiple Curves adjustment layers and layer masks as described above. Your results will vary depending on your tastes. ***Facing page***—Here we see the same effect on an image of Raeceen Woolford without the "backlight." I like it both ways.

Putting It All Together to Create a Corporate Headshot

We are now going to apply the lessons learned so far to create an in-studio executive portrait.

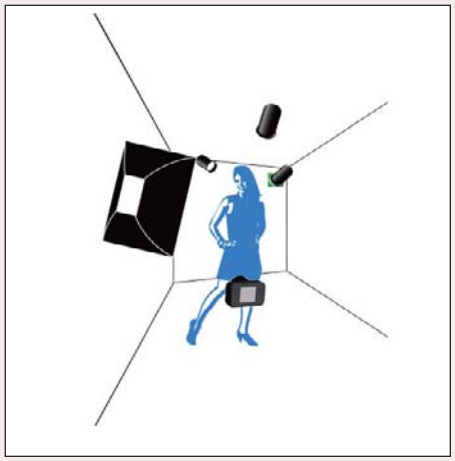
An effective executive portrait has several critical components, particularly if it is a formal image (meaning the subject will be dressed in business attire). You want your client to project a sense of authority and control without appearing unfriendly.

Your interpersonal skills are just as important as your technical prowess when working with clients who are not used to being photographed, often don't like to be photographed, and almost by definition are not used to taking direction from someone else. The success of your collaboration will depend in part on your ability to instill confidence in your executive and then draw that attitude out of them for the photograph.

Your time with a busy executive is almost always extremely limited, so you need to have the technical aspects of the job dialed in before he or she arrives on the set.

The head and shoulders portrait on the facing page shows a 3:1 lighting ratio. The setup consisted of a hair light (a spotlight modified with a green gel) and a backlight (a gridspot). The image looks great at this point, but there are a few things I want to do to finesse the image. I am going to use

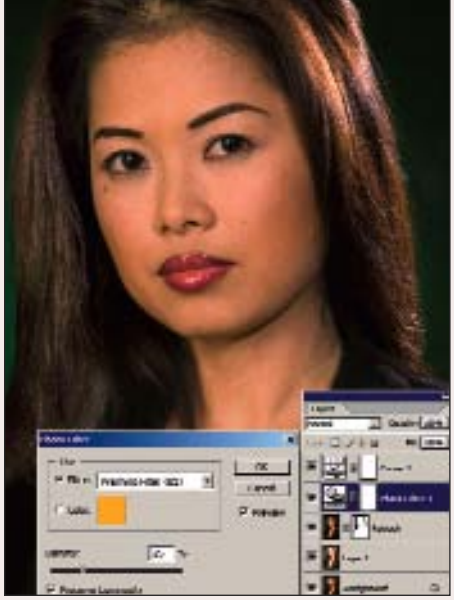
Left—One way to create a sense of authority is to create the illusion of increased height. Your subject will appear taller if you shoot from a low angle. Here the camera is aimed at Brandy's waist rather than torso. Be careful to maintain a parallel perspective—don't shoot so low that you have to tilt the camera, as that will create the feeling that your subject is falling. ***Facing page***—The lighting for this image is complete, and here we see the photograph after some minor retouching was completed. The Clone Stamp and Healing Brush were used to clean up stray hairs, etc. As noted earlier, always do your retouching on a separate layer if you haven't got an easily accessible original to refer back to. It also helps to name each layer for easy reference. The diagram for the lighting setup appears below.

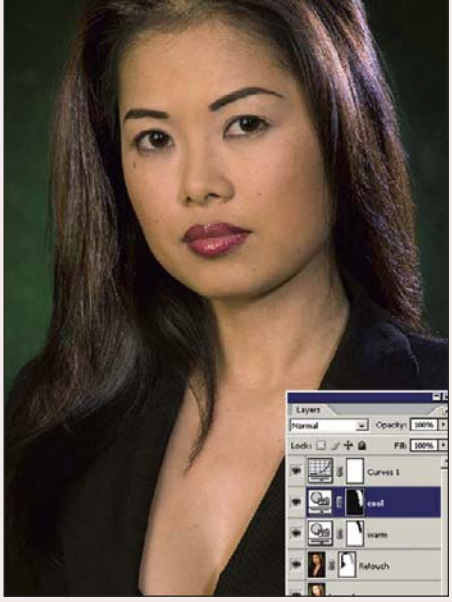


Top—This image shows the overexposed version in comparison to the properly exposed image. The other critical component shown in this screen capture is the addition of a layer mask, which was created simply by highlighting the retouched layer and clicking the layer mask icon at the bottom of the Layers palette. ***Bottom***—The layer mask is white, so I set the foreground color to black and brushed over the image to expose the underlying overexposed layer. I painted the hair on Brandy's right at 100%. The left side of Brandy's head was lit, so I only painted in more highlights at 50% opacity. It's a personal creative choice at this point, and I can easily adjust these amounts by switching to white paint and painting the masked layer back in at different opacities.

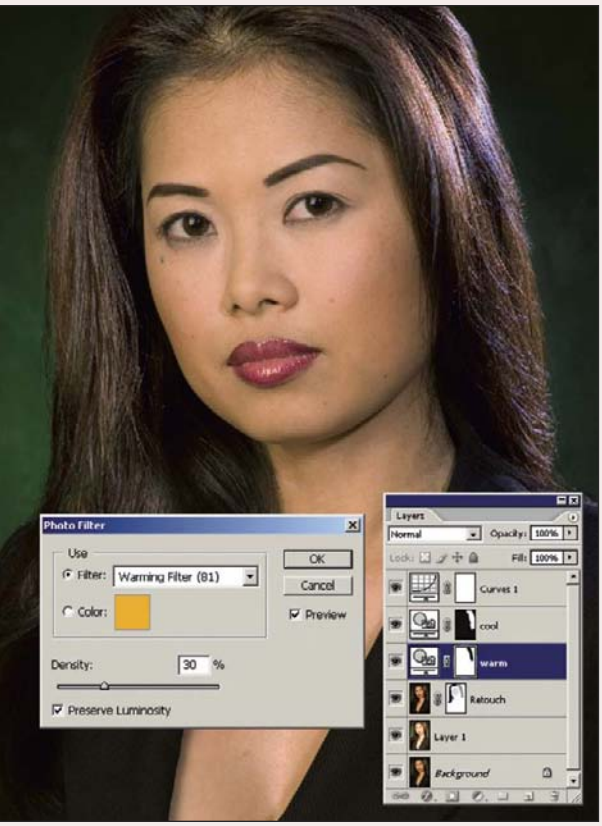
Photoshop to accentuate the highlights in Brandy's hair, and then I am going to selectively alter the color temperature to finalize the "corporate image." I captured the image in RAW so it was easy to go back and reprocess the image to bring out more highlights. I dragged the exposure slider in Adobe Camera Raw to "overexpose" the image by 1½ stops. The Layers palette in the screen shot shows the image overexposed and how it looks sandwiched between two layers of the properly exposed version. (Hold the Shift key while moving images between files to center the dragged image and create a justified set of layers.)

One thing that I used to do when I shot executive portraits on transparency film was to selectively change the color temperature of my lights to create more contrast and interest. I would use color temperature gels to "warm up" my main lights and "cool down" my hair lights. In actuality I was lowering the color temperature of my main lights and raising the color temperature of my hair lights. I can now do the same thing in Photoshop. I'll use the Photo Filter adjustment layers to produce an effect similar to what I used to use gels to achieve—with much more control than I ever had shooting transparencies!





Left—I don't want to "warm" the image up too much, so I chose the 81 warming filter and left it at the default setting of 25% transparency. I want to "cool down" the hair light, so I'm going to have to first paint the underlying layer back in where Brandy's hair is lit. ***Center***—Adding an 80A cooling filter doesn't look very appealing! We'll fix that, but in the meantime notice the mask in the "warm" layer—the highlights are no longer affected by the warming filter. ***Bottom***—I simply filled the "cool" layer mask with black, then painted with white to reveal the cooling filter where the light was illuminating her hair.



I made a couple more minor adjustments before I was happy with the final image. First I went in and cleaned up a few stray hairs. I then went into some of the layer masks and made some adjustments. The final screen capture (above) shows those changes.

The lighting and careful metering laid the foundation for the final image (right), but the tools available in the latest versions of Photoshop open the doors to all kinds of creative opportunities.

Left—Note the layer mask in the Retouch layer. I brightened the mask of Brandy's face with two strokes of black paint at 10% opacity each. I then bumped up the transparency of the 81 warming filter to 30%. ***Right***—The final product!

Explore Your Options

We have looked at some of the Photoshop techniques that I often use. However, we have only begun to scratch the surface. Use the layer masks as described herein and explore the many facets of Photoshop.

Here are two versions of a fashion shot of Shenri-Ann taken in downtown Honolulu.

The first version, shot with a beauty dish as the main light, works fine. However, we went digging into the filters in Photoshop, found a zoom blur in the Radial Blur filter set, and started to play. A layer mask allows a sharp model to show through the blur. I think that the effect adds a little bit of an edge to the image.

Left—This image of Shenri-Ann certainly works as an urban fashion photograph. We used a strobe in a beauty dish for the main light. ***Right***—The addition of a zoom blur filter and a layer mask turns this into a cool fashion shot.

TERMS TO KNOW

Color Space. Color space is the world in which your digital images live. It dictates the amount and depth of color that is available to you. There are several color spaces, and each has its own pros and cons. sRGB is perhaps the most commonly used and is the default setting for many digital cameras. Many professional print labs have their printers set to sRGB color. It is also the smallest of the popular color spaces. It is very common for professionals to set the color space to sRGB when posting images on the Internet. Adobe RGB is another color space that you will hear about and see. This space is larger than sRGB, meaning that there is more information available in this space than in sRGB. Many professional labs use Adobe RGB to profile their printers. You will not get the results that you expect if the color space profile of your image does not match the profile of the printer or paper used. Check with your lab to see which color space they use. ProPhotoRGB is a color space that offers an even wider gamut of colors, and ColormatchRGB is another name that you'll see. I am currently using Adobe RGB and converting the profile to sRGB when I post my images to the web.

RGB. RGB stands for red, green, and blue. RGB can refer to the amount of light waves emitted by a light source along those three dimensions, to the color model used by computer monitors, and to the default setting for many digital imaging programs and devices.

CMYK. CMYK stands for cyan, magenta, yellow, and black. CMYK usually refers to the color space that one works in when doing offset printing.

Calibrate. The term "calibrate" means to make sure that all of your devices are speaking the same language. Perhaps the most important device to calibrate is your monitor. The colors that your monitor displays may or may not be in sync with the true numerical color values in your images. Monitors also change and shift their color displays over time. The first step in controlling your digital workflow and the color quality of your images is to calibrate your monitor—and do it often. Recalibrate your monitor once a month at a minimum.

Output

The final step in your postproduction sequence is to determine where and how your photographs will be viewed. The output phase of your work will impact the final image size and the file type you save. It also partially dictates your final choice of color space, as well as if and how you sharpen the photograph.

Resolution and File Type. The resolution requirements for your file are dependent on the final use for the image. For example, you would probably resize the image to 72dpi and save it as an sRGB JPEG for output to the web. You might save the image as a 300dpi TIFF or PSD file if you were sending the image to a professional lab for output. You would also need to determine what color space the lab wants the file in. If you were printing the image yourself, you'd want to save the image as a 300dpi TIFF or PSD file.

The resolution requirements for your file are dependent on the final use for the image.

ICC Profiles. An ICC profile is a standard format for a data file that describes the color behavior of a device or color model in terms of a device- and color-independent color model. There are many ICC profiles for the various home-based printers and papers that are available to download from the manufacturer's web sites.

Various montiors "see" images differently, and the appearance of the image is dependent on the type of paper it is printed on; therefore, familiarizing yourself with ICC profiles and using a profile that is true to your paper and printer will help you to realize your creative vision.

Color Mode. When you take a picture, the image is created in RGB (i.e., all colors in the image are made up of varying amounts of red, green, and blue). Your LCD screen and computer monitor display images in RGB. For publication in books and magazines (offset printing), however, the color mode of the image file must be converted to CMYK. The converstion from RGB to CMYK can be tricky, so whenever possible, I send my images to the publisher in Adobe RGB (1998) and have them do the conversion.

Sharpening. You may need to do some image sharpening before outputting your image. I usually use Photoshop's Unsharp Mask filter to accomplish the task, but the Smart Sharpen filter is also a good choice; there are several third-party filter options available on the market as well.

It is just too easy for someone to right-click and save your image.

The amount that you can sharpen your image is dependent on the size. A 72dpi image requires much less sharpening than a 300dpi file. When submitting an image for publication, I tend to send unsharpened images because the publisher knows more about their equipment than I do, and I don't want to send an oversharpened file.

Ownership. The last thing I do before selling or leasing my images to the public is embed my name or logo. This is especially critical when posting images on the Internet. It is just too easy for someone to right-click and save your image. (Note that I skip this step when the image is being sent to a publisher, as my name is clearly associated with the final product once the publication in printed.)

Actions. I wrote a simple action that automatically resizes my images, changes the color space when necessary, embeds a copyright notice in the file, and copies and pastes my logo in every image. You can accomplish all of this in about five seconds with an action!

Conclusion

Studying light has been a lifelong journey for me. I can vividly remember sitting in one of my graduate psychology classes. We were in a long, narrow classroom with large windows, and the light would change dramatically over the three-hour class. I watched with fascination as the quality, direction, and color of the light would change and produce different effects on people's faces. I also managed to pass the class, but looking back,

We leave you with an image of Elise Duggins that sums it all up: Study your lighting, work with your models, maybe turn on a fan, but above all, enjoy what you are doing. Photography is a unique combination of art and science, and it's a lot of fun. Go for it!

I realize that my true passion has always been light. I hope that I have been able to give you some of the tools to begin or continue your own journey. This is only the beginning; enjoy the winding path of discovery as each of the concepts introduced in this book begin to make sense. Experiment and try new ideas and revel in your successes as much as you embrace the challenges of trials that don't turn out perfectly. It's a process; let it unfold. If light and photography are your passion, then make it happen. Study business as well as lighting. Join your local professional organizations and/or find some resources on the Web. Most importantly, have fun!

About the Author

Stephen Dantzig is a nationally renowned lighting expert and author of *Lighting Techniques for Fashion and Glamour Photography, Master Lighting Techniques for Outdoor and Location Digital Portrait Photography,* and *Softbox Lighting Techniques for Professional Photographers,* all from Amherst Media. He has written more than sixty articles and lessons on photographic lighting and ethics. He is a frequent contributor to *Rangefinder,* and his lessons have also appeared in *Professional Photographer, PC Photo Studio Photography & Design, ProPhoto West,* and on ShootSmarter.com, ProPhotoResource.com, and the Photoflex Web Photo School. His work has appeared on more than twenty-two magazine covers, including local, regional, and national markets. Some of his published works have appeared in Amherst Media's *Portrait Photographer's Handbook, Group Portrait Photography Handbook, The Best of Portrait Photography, The Best of Photographic Lighting* (first and second editions), *Lighting and Posing Techniques for Photographing Women, Professional Portrait Lighting,* Rangefinder's *Professional Photography,* and *500 Poses for Photographing Women*. His work has also been published in *This Week* (Hawaii), *Pleasant Hawaii, Doll Reader, Metropolitan Home, Studio City Lifestyle, Santa Clarita Valley Living,* and *The Los Angeles Times.* Stephen is a twenty-one time Award of Merit recipient from the Professional Photographers of Los Angeles County and has received two Awards of Merit from the Professional Photographers of Hawaii. His specialties include fashion, beauty, and corporate photography. Stephen also holds a Doctor of Psychology degree from the Rutgers University Graduate School of Applied and Professional Psychology. He now works, teaches, and resides in Honolulu, HI.

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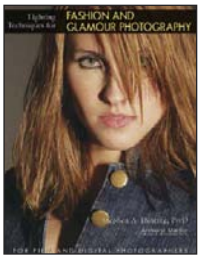

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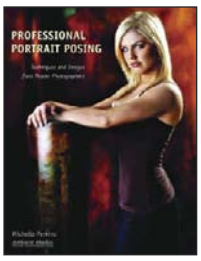

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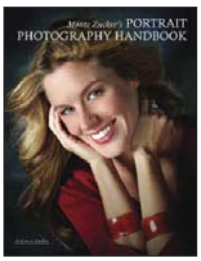

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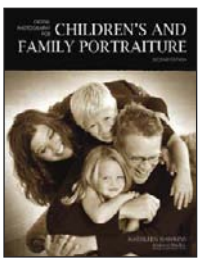

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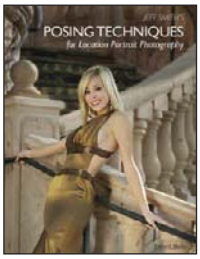

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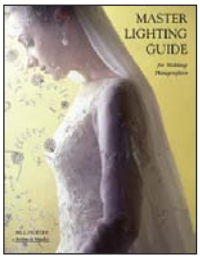

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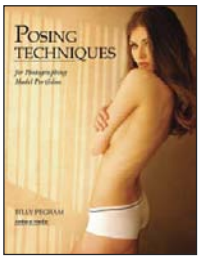

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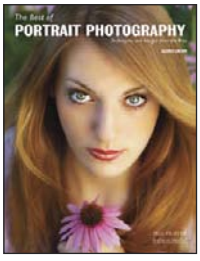

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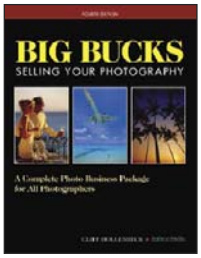

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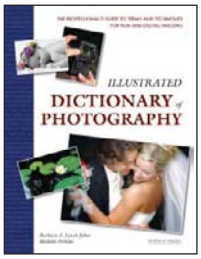

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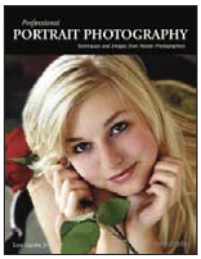

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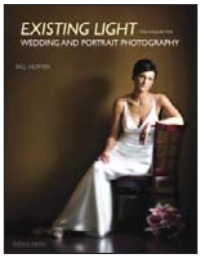

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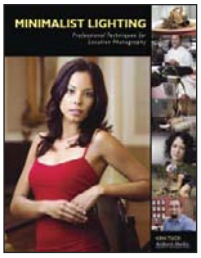

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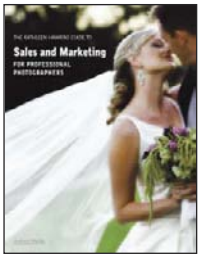

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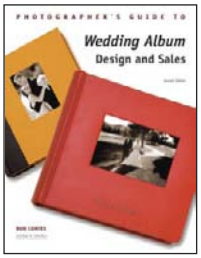
Make complicated lighting setups a thing of the past. In this book, you'll learn how to streamline your lighting for more efficient shoots and more natural-looking portraits. $34.95 list, 8.5x11, 128p, 175 color images, index, order no. 1864.



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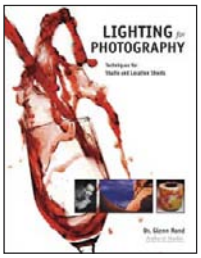

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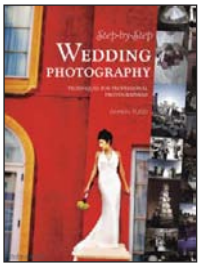

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Damon Tucci

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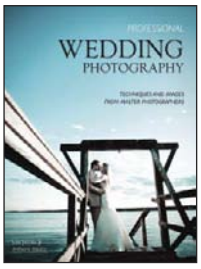

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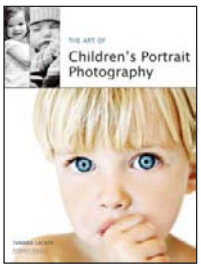

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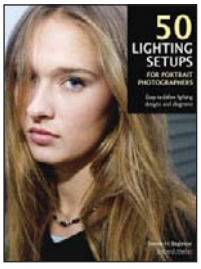

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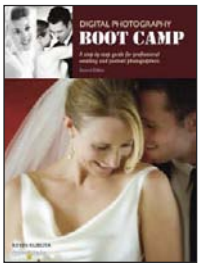

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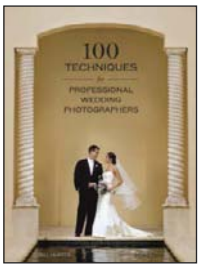

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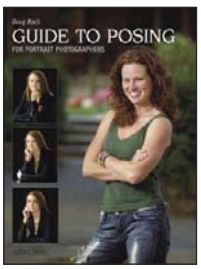

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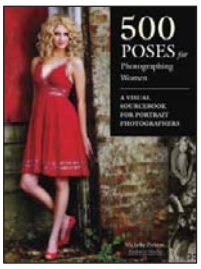

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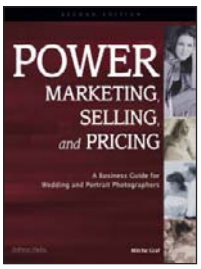

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MASTER THE PRINCIPALS OF PORTRAIT LIGHTING AND LEARN HOW TO APPLY THEM IN STUDIO AND LOCATION SESSIONS

Portrait lighting involves the interaction of many complex components, but Stephen Dantzig makes it simple to learn, showing you the hows and whys of portrait lighting and providing concise demonstrations to make learning easy. More advanced techniques are also included, allowing you to take your work to the next level with portraits that reflect your unique creative vision.

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